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bulletin of

Duke University 1982-83

Medical Center



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Duke University 1982-83

Medical Center

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Typesetting by Electronic Composition Div., Computer Data Systems, Inc., Washington, D.C.
Printed by Wm. Byrd Press, Richmond, Virginia

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The information in the bulletin applies to the academic year 1982-83 and is accurate and current, to the best of our knowledge, as of February, 1982. The University reserves the right to change programs of study, academic requirements, lecturers, teaching staffs, the announced University calendar, and other matters described in the bulletin without prior notice, in accordance with established procedures.

Volume 54

April 1982

Number 4

The Bulletin of Duke University (USPS 073-680) is published by Duke University, Duke Station, Durham, North Carolina 27706 as follows: monthly—April, May, and July; semimonthly—October, March, and August; thrice-monthly—June. Second-class postage paid at Durham, North Carolina.

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School of Medicine Calendar 1982-83

First Year (Freshmen) Students

1982

August	
20	Friday, 8:30 A.M.—Orientation
23	Monday, 8:00 A.M.—First day of academic year, 1982-83, begin fall term
September	
6	Monday—Labor Day holiday
November	
24	Wednesday, 6:00 P.M.—Begin Thanksgiving holiday
29	Monday, 8:00 A.M.—Classes resume
December	
21	Tuesday, 6:00 P.M.—End fall term

1983

January	
10	Monday, 8:00 A.M.—Begin spring term
March	
4	Friday, 6:00 P.M.—Begin spring vacation
14	Monday, 8:00 A.M.—Classes resume
May	
7	Saturday, 12:00 noon—End spring term
9	Monday, 8:00 A.M.—Begin introduction to clinical sciences (summer term)
June	
25	Saturday, 12:00 noon—End introduction to clinical sciences (summer term)

Second Year (Sophomore) Students

Summer Term 1982

May	
3	Monday, 8:00 A.M.—Begin classes in section 81
June	
25	Friday, 6:00 P.M.—End classes in section 81
28	Monday, 8:00 A.M.—Begin classes in section 82
July	
5	Monday—Independence Day holiday
August	
21	Saturday, 12:00 noon—End classes in section 82

Fall Term 1982

August	
30	Monday, 8:00 A.M.—Begin classes in section 81
September	
6	Monday—Labor Day holiday
October	
23	Saturday, 12:00 noon—End classes in section 81
25	Monday, 8:00 A.M.—Begin classes in section 82
November	
24	Wednesday, 6:00 P.M.—Begin Thanksgiving holiday
29	Monday, 8:00 A.M.—Classes resume
December	
18	Saturday, 12:00 noon—End classes in section 82

Spring Term 1983

January	
3	Monday, 8:00 A.M.—Begin classes in section 81
February	
26	Saturday, 12:00 noon—End classes in section 81
28	Monday, 8:00 A.M.—Begin classes in section 82

March		
15-16	Tuesday-Wednesday—Registration for summer term, 1983	
April		
19-20	Tuesday-Wednesday—Registration for fall term elective courses, 1983	
23	Saturday, 12:00 noon—End classes in section 82	

Summer Term 1983

May		
2	Monday, 8:00 A.M.—Begin classes in section 81	
June		
25	Saturday, 12:00 noon—End classes in section 81	
27	Monday, 8:00 A.M.—Begin classes in section 82	
July		
4	Monday—Independence Day holiday	
August		
20	Saturday, 12:00 noon—End classes in section 82	

Third Year (Junior) and Fourth Year (Senior) Students

Summer Term 1982

May		
10	Monday, 8:00 A.M.—Begin classes in sections 16, 81, 41	
June		
5	Saturday, 12:00 noon—End classes in section 41	
7	Monday, 8:00 A.M.—Begin classes in section 42	
July		
2	Friday, 6:00 P.M.—End classes in sections 81, 42	
5	Monday—Independence Day holiday	
6	Tuesday, 8:00 A.M.—Begin classes in sections 82, 43	
31	Saturday, 12:00 noon—End classes in section 43	
August		
2	Monday, 8:00 A.M.—Begin classes in section 44	
28	Saturday, 12:00 noon—End classes in sections 16, 82, 44	

Fall Term 1982

August		
30	Monday, 8:00 A.M.—Begin classes in sections 16, 81, 41	
September		
6	Monday—Labor Day holiday	
25	Saturday, 12:00 noon—End classes in section 41	
27	Monday, 8:00 A.M.—Begin classes in section 42	
October		
23	Saturday, 12:00 noon—End classes in sections 81, 42	
25	Monday, 8:00 A.M.—Begin classes in sections 82, 43	
November		
2-3	Tuesday-Wednesday—Registration for spring term, 1983	
20	Saturday, 12:00 noon—End classes in section 43	
22	Monday, 8:00 A.M.—Begin classes in section 44	
24	Wednesday, 6:00 P.M.—Begin Thanksgiving holiday	
29	Monday, 8:00 A.M.—Classes resume	
December		
18	Saturday, 12:00 noon—End classes in sections 16, 82, 44	

Spring Term 1983

January		
10	Monday, 8:00 A.M.—Begin classes in sections 16, 81, 41	
February		
5	Saturday, 12:00 noon—End classes in section 41	
7	Monday, 8:00 A.M.—Begin classes in section 42	
March		
5	Saturday, 12:00 noon—End classes in sections 81, 42. Begin spring vacation	
14	Monday, 8:00 A.M.—Classes resume. Begin classes in sections 82, 43	

15-16	Tuesday-Wednesday—Registration for summer term, 1983
April	
9	Saturday, 12:00 noon—End classes in section 43
11	Monday, 8:00 A.M.—Begin classes in section 44
19-20	Tuesday-Wednesday—Registration for fall term, 1983
May	
7	Saturday, 12:00 noon—End classes in sections 16, 82, 44
7-8	Saturday-Sunday—Graduation activities



University Administration

General Administration

Terry Sanford, J.D., LL.D., D.H., L.H.D., D.P.A. *President*
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Medical Center Administration

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L. T. Matthews, B.A., *Director of Engineering and Operations*
James L. Bennett, Jr., A.B., *Director of Administration*
Bernard McGinty, B.A., *Director of Budget and Finance*
Raymond C. Waters, M.A., *Assistant to the Vice-President*
Barbara Echols, M.B.A., *Director, Office of Grants and Contracts*

Office of Medical and Allied Health Education

Ewald W. Busse, M.D., *Associate Provost and Dean, Medical and Allied Health Education*
Arthur C. Christakos, M.D., *Associate Dean, Graduate Medical Education*
Suydam Osterhout, M.D., Ph.D., *Associate Dean, Admissions*
Harry A. Gallis, M.D., *Director, Continuing Medical Education*
John L. Weinerth, M.D., *Director, Graduate Medical Education*
Shirley K. Osterhout, M.D., *Assistant Dean for Student Affairs*
Charles B. Johnson, Ed.D., *Associate University Registrar and Registrar, Medical Center*
Ann M. Rimmer, *Administrative Assistant to the Dean of Medical and Allied Health Education*
Frank R. Lecocq, M.D., *Director, Area Health Education*

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Duncan Yaggy, Ph.D., *Director, Duke Hospital and Chief Planning Officer*
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J. Peyton Fuller, A.B., *Associate Director and Corporate Controller*
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Michael J. Schwartz, M.H.A., *Associate Director, North Division*
V. Gregg Watters, M.H.A., *Associate Director, South Division*
Wilma Minniear, R.N., M.S.M., *Executive Director, Nursing Service*
Delford L. Stickel, M.D., *Associate Director, Medical Affairs*
John Weinerth, M.D. *Associate Director, House Staff Affairs*

Office of the School of Nursing

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Edward E. Cooke, B.A., *Staff Assistant to the Dean*
Dorothy J. Brundage, R.N., Ph.D., *Associate Dean*
Martha Nan Hayes, *Administrative Director for Academic Affairs*
Joy P. Clausen, R.N., Ph.D., *Coordinator of Outreach Programs*
Ella E. Shore, M.R.E., M.A., *Dean of Student Affairs*



Standing Committees of the School of Medicine and Medical Center

Admissions—Allied Health Degree

E. W. Busse, M.D., *Chairman*; Drs. Hamilton, C. Johnson, Neelon, and Widmann

Admissions—Allied Health Certificate

E. W. Busse, M.D., *Chairman*; Drs. C. Johnson, Logue, Moylan, and Rice; Mr. Stump

Admissions—Medical School

Suydam Osterhout, M.D., Ph.D., *Chairman*; Drs. Akwari, Andersen, N. C. Anderson, W. B. Anderson, Burns, R. Coleman, Dawson, Gianturco, C. Johnson, Kamin, Kay, Parkerson, Paulson, Rourk, Steege, Vogel, and Warburton; Ms. King, *Administrative Assistant*; student representatives, Ms. Miller; Messrs. Campos and Hall

Allied Health Education Advisory Committee

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Allied Health Program Directors

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Animal Care Advisory

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Audit and Tissue

Clinical Chairman of each clinical service and head of each division in service

Awards Committee for Student Awards

Shirley Osterhout, M.D., *Chairman*; departmental professional advisers from basic and clinical departments

Brain Death

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Clinical Cancer Education Program

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Third Year: Peter Lauf, M.D. *Chairman*; Drs. Susan Brown, Corley, Crovitz, Greenleaf, Keefe, MacPhee, James Moore, Nadler, Pizzo, Reedy, Simon, Webster, Wheat, Whorton, and Woodard; student representatives, Ms. Schaten, and Willett; Messrs. Cummings and Morse

Fourth Year: Joseph A. Moylan, M.D., *Chairman*; Drs. Block, Bobula, Bollinger, Chandler, Christakos, Durack, Friedman, Fuller, Gall, Steven Gross, Herskovic, Kirks, McCuen, Prentice, Redick, Sieker, and Walker; student representatives, Messrs. Austin, Caffrey, Herzog, and Pin

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Duke Comprehensive Cancer Center Advisory

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Hospital Infections

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Medical School Advisory

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North Carolina Residence

Suydam Osterhout, M.D., Ph.D., *Chairman*; Drs. Clapp, C. Johnson, and Peete

Operating Room Advisory

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William Murray, M.D. *Chairman*, Drs. Cobo, Durack, Haney, Hester, Jones, Klotman, Lazar, Shirley Osterhout, Peter, Simpson, and Weinrich; Ms. Bowers; Messrs. Fitzgerald, McAllister, O'Connell, and Skolaut

Research Award

F. Stephen Vogel, M.D., *Chairman*; Drs. Fridovich, Gallagher, Metzgar, Schanberg, Semans, and Spach

Study Away Committee

Arthur C. Christakos, M.D., *Chairman*; Drs. Shirley Osterhout, McCarty, Warburton, and Yarger

Utilization Review

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Joseph C. Greenfield, Jr., M.D., *Chairman*; Drs. Fuchs, Jeager, Logue, Sage, Shelburne, Taska, William Thompson, Velez, and Weitzner; Ms. Fowler; *Ex officio*: Dr. Postlethwaite; Messrs. Brown and Duncan

Vice-President's Veterans Administration

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General Information



History

I have selected Duke University as one of the principal objects of this trust because I recognize that education, when conducted along sane and practical, as opposed to dogmatic and theoretical, lines is, next to religion, the greatest civilizing influence.

I have selected hospitals as another of the principal objects of this trust because I recognize that they have become indispensable institutions, not only by way of ministering to the comfort of the sick, but in increasing the efficiency of mankind and prolonging human life

James Buchanan Duke, Indenture of The Duke Endowment, 1924

By establishing the Duke Endowment, James Buchanan Duke expressed his hope that adequate and convenient hospital care would become available to all Americans. His further bequests provided for the opening, in 1930, of the School of Medicine, School of Nursing, and hospital which today are the core institutions of the Duke University Medical Center. By opening the first major outpatient clinics in the region in 1930, Duke recognized its responsibility for providing quality care to the people of the Carolinas. The Private Diagnostic Clinic, organized in 1932, not only provided coordinated medical and surgical care to private patients with moderate incomes but also allowed members of the medical faculty to contribute a portion of their earnings toward the continued excellence of medicine at Duke. In less than five years Duke was ranked among the top 25 percent of medical schools in the country by the Association of American Medical Colleges.

Building on this heritage, the Duke University Medical Center ranks among the outstanding health care centers of the world. Its pioneering medical curriculum, instituted in 1966, features a generous measure of elective course selection in the belief that all health professionals must be prepared for a lifetime of self-education. The scientific grounding for that education is provided through participation in a wide variety of ongoing research programs. The opening of Duke Hospital North in 1980 makes the Duke Hospital, with 1,008 beds, one of the most modern patient care facilities anywhere available. The combined strength of its teaching, research, and hospital care programs represents the continuing fulfillment of the dream of James Buchanan Duke.

Over the years the Medical Center has been enlarged and its programs expanded by new construction and by the acquisition of, and affiliation with, established hospitals.

Currently the Medical Center at Duke University occupies approximately 120 acres. The southern portion is contiguous with the main quadrangle of the University and consists of the following: *Davison Building*—Department of Pathology, Central Teaching Facility, Division of Audiovisual Education, Medical Center Administration, Student Lounge, School of Medicine, Office of Admissions, and



departmental research laboratories and offices. *Duke Hospital South*—inpatient care units, in- and outpatient diagnostic, treatment and support services including operating rooms, recovery room and laboratories, nursing service administration, amphitheater, chapel, private diagnostic clinics, outpatient clinics, departmental offices; *Baker House*—Departments of Medicine, Anesthesiology, Obstetrics and Gynecology, outpatient diagnostic, treatment and support services including speech and hearing, pastoral care and counseling, departmental offices; *Barnes Woodhall Building*—inpatient care units, in- and outpatient diagnostic, treatment and support services including labor and delivery room and radiology, hospital administration, Department of Radiology, departmental offices; *Diagnostic and Treatment Building*—clinics, in- and outpatient diagnostic, treatment and support services, departmental research laboratories and offices; *Gerontology Building*—Department of Psychiatry, Center for the Study of Aging and Human Development, treatment and support services, departmental research laboratories and offices; *Clinical Research I*—inpatient care units (research), departmental research laboratories and offices; *Clinical Research II*—hyperbaric unit, departmental research laboratories and offices, clinical cancer research unit; *Edwin A. Morris Clinical Cancer Research Building*—Inpatient care unit (research), clinics, diagnostic treatment and support services including Division of Radiation Therapy, departmental research laboratories and offices.

The northern portion has the following buildings: *Nanaline H. Duke Medical Sciences Building*—Departments of Biochemistry, Physiology, and Pharmacology; *Alex Sands Medical Sciences Building*—Department of Anatomy and clinical science research programs of the Departments of Medicine, Surgery, Psychiatry, and Anesthesiology; *Edwin L. Jones Basic Cancer Research Building*—Director of Comprehensive Cancer Center, Department of Microbiology and Immunology and basic

science research programs of Medicine, Surgery, Pediatrics, Obstetrics-Gynecology, Anatomy, and Pathology; *Medical Research Building*—offices and laboratories of Radiology; *Bell Building*—offices and laboratories of Medicine, Surgery, Pediatrics, Radiology, Anatomy, and Ophthalmology. It also houses Information Services, gross anatomy laboratories, and the Research Training Program; *Seeley G. Mudd Communications Center and Library*—Medical Center Library, the Trent Collection of the History of Medicine; *Searle Center for Continuing Education*; *Eye Center*—inpatient care units, eye clinic, diagnostic, treatment and support services including operating rooms, recovery, Department of Ophthalmology, departmental laboratories and offices; *Duke Hospital North*—inpatient care units, diagnostic, treatment, and support services including operating rooms and recovery, Radiology, laboratories, Departments of Surgery and Pediatrics, departmental offices.

In the western section of the campus are: *Research Park Buildings I, II, III, and IV*—offices and laboratories of Medicine, Surgery, Pediatrics, Radiology and Microbiology and Immunology; *Vivarium*—Division of Laboratory Animal Resources and laboratory animal care facilities; *Animal and Laboratory Isolation Facility*—special containment facility for cancer research.

In the eastern section of the campus are: *Pickens Rehabilitation Center*—general and rehabilitation outpatient clinics; Student Health Service, Employee Health Service, and Faculty Family Health Service; *Civitan Mental Retardation and Child Development Center*—offices, clinics, and laboratories of Psychiatry and Pediatrics; *Trent Drive Hall*—Health Administration and Department of Community and Family Medicine.

Duke University Medical Center continues to strive to be a leader in contemporary medicine. This involves maintaining superiority in its four primary functions—unexcelled patient care, dedication to educational programs, national and international distinction in the quality of research, and service to the region.

Growth is identified with deeper involvement in the social aspects of health, the establishment of many advanced therapeutic and research facilities, a building program that will require one or more decades for its completion and a new and imaginative revision of the medical teaching program that has attracted the attention of educators around the world.

Resources for Study

Library/Communications Center. The Medical Center Library/Communications Center is located in the Seeley G. Mudd Building, midway between the north and south Medical Center campuses.

The Medical Center Library attempts to provide all informational services and collections necessary to further educational, research, and clinical activities in the medical field. The collection of approximately 183,800 volumes and 2,450 current journal subscriptions is freely available for use by Medical Center students and personnel; study accommodations for 500 readers includes extensive provisions for audiovisual learning. The library also includes the Trent Collection which is unsurpassed in the southeast as a resource for study of the history of medicine, and a branch collection of books and journals maintained in the Nanaline B. Duke Medical Sciences Building.

The Medical Center Library is open: Monday-Friday, 8:30 A.M.-midnight; Saturday, 8:30 A.M.-6:00 P.M.; Sunday, 12:00 noon-midnight. Summer and holiday hours are as announced.

Director: Warren P. Bird, M.S. (Columbia, 1964), *Associate Professor of Medical Literature*; Curator of the Trent Collection: G.S.T. Cavanagh, B.S., B.L.S. (McGill, 1951), *Professor of Medical Literature*.

The Medical Center Bookstore offers a wide selection of biomedical textbooks and reference books, as well as an assortment of laboratory and clinical instruments and office supplies. Facilities for browsing in a pleasant atmosphere are

available, as are special individualized services. The Bookstore is open: 8:30 A.M.-5:00 P.M., Monday-Friday.

Manager: Ken Baxley

The Searle Center for Continuing Education in the Health Sciences provides accommodations for conferences, symposia, lectures and meetings to support the Continuing Education activities of the Medical Center. Provisions have been made for banquet and food service arrangements to complement the meeting facilities.

Director: Ellen Rock

The Thomas D. Kinney Central Teaching Laboratory. The Thomas D. Kinney Central Teaching Laboratory, formerly the Central Teaching Facility, is located on the fourth floor of Davison Building where it provides laboratory, demonstration, and conference space for all courses taught in the basic sciences, with the exception of gross anatomy. A full-time staff maintains a wide range of equipment and provides supplies and services necessary for the teaching programs conducted in the facility, thus enabling the academic staff of each department to devote its efforts entirely toward the students.

Six unit laboratories, each accommodating twenty students, and a twelve-person M.D.-Ph.D. candidate laboratory are devoted to instruction for the first year. All first year medical students are given space in one of these laboratories for their own work which they maintain for the entire academic year. Four small laboratories are interspersed between the six unit laboratories and provide space for large pieces of equipment used in conjunction with exercises conducted in the unit laboratories. Space is also provided for small laboratory projects. Three large multipurpose laboratories can accommodate forty or more students each for a large variety of teaching exercises. Other areas include demonstration and conference rooms and a microscopy laboratory for advanced courses offered during the third year.

The Central Teaching Laboratory also provides resources for allied health programs and a microscope cleaning service. Five large conference rooms in Duke South and fourteen conference rooms in Duke North are scheduled through this



office, providing additional teaching space for groups of 16 to 225 persons when necessary.

Manager: Carol G. Reilly, B.S.

Division of Audiovisual Education. The Division of Audiovisual Education serves the Medical Center by providing all types of audiovisual materials to assist the faculty. There are three subdivisions: the Medical Art Facility, the Medical Photography Facility, and the Central Television Facility.

The Medical Art Facility provides illustrations produced by various art methods and techniques. Services rendered are medical illustrations, schematic and mechanical drawings, diagrams, charts, graphs, designs, lettering, signs, casts, models, and exhibits, as well as other forms of illustrations.

The Medical Photography Facility is staffed and equipped to provide all photographs needed for patient care, for teaching, and for research. For example, photographers take pictures of patients, including such fine details as the patterns of vessels on the retina. Standard sized slides, transparencies, and prints are produced as requested for lecture, publication, and exhibit purposes.

The Central Television Facility also provides services for teaching, research, and patient-care programs. The three-fourths inch video format is used for color recording of procedures for patient education and of lecture presentations as part of staff continuing education. Closed-circuit TV is used for remote observation of surgery by students and staff in the North Division. Motion pictures in color and with sound are also produced by this section. Audiotape services, projectionists, and projectors are provided.

Director: Thomas P. Hurtgen, M.B.A.

Duke Hospital. Duke Hospital, one of the largest private hospitals in the south, is part of the Medical Center and currently has 1,008 beds. The hospital directs its efforts toward the three goals of expert patient care, professional education, and service to the community. It offers patients modern comprehensive diagnostic and treatment facilities and special acute care and intensive nursing units for seriously ill patients. More than 30,000 patients are admitted annually. Surgical facilities include thirty-two operating rooms in which surgeons perform more than 16,000 operative procedures annually. Approximately 1,800 babies are born each year in the delivery suite. Other special facilities for patients include a heart catheterization laboratory, hemodialysis unit, cancer research unit, pulmonary care unit, hyperbaric oxygenation chamber, and cardiac care unit.

Close working relationships with private and governmental health and welfare agencies provide opportunities for continued care of patients after they leave Duke Hospital.

Ambulatory services include the nonprivate outpatient clinics, private diagnostic clinics, the employee health service, and the emergency department, with annual total patient visits of over 400,000. The clinical faculty of the Duke University School of Medicine participate in undergraduate and graduate medical education and practice medicine in the hospital and in private diagnostic clinics.

Duke Hospital, with a house staff of approximately 579, is approved for internship and residency training by the Council on Medical Education and Hospitals of the American Medical Association and is fully accredited by the Joint Commission on Accreditation of Hospitals.

Veterans Administration Medical Center. The Durham Veterans Administration Medical Center, with 489 beds, annually admits over 7,000 patients. The hospital is within walking distance from the School of Medicine and has closely integrated teaching and training programs for medical students and house staff. These programs are provided by the full-time professional staff who are members of the faculty of Duke University School of Medicine.



Sea Level Hospital. Sea Level Hospital in Carteret County, North Carolina, became part of Duke University Medical Center in 1969 as a result of a gift by D. E. Taylor and family of West Palm Beach, Florida. The seventy-two-bed community hospital retains its professional and administrative staff, with representatives of the Medical Center serving in an advisory capacity. It provides an opportunity for medical students to obtain experience in the practice of medicine in a small community.

Lenox D. Baker North Carolina Crippled Children's Hospital. The Lenox D. Baker North Carolina Cerebral Palsy Hospital, with forty beds, is a residential rehabilitation center for children with neuromuscular and skeletal diseases, primarily cerebral palsy. Although it is a state institution, physicians on the faculty of the Duke University Medical Center conduct interdepartmental teaching and training programs for house staff, medical students, and the Cerebral Palsy Hospital staff.

Durham County General Hospital. Durham County General Hospital is a county owned, 483-bed, general, short-term care community facility serving the residents of Durham County. This institution participates in many of the medical and health-related professional training experiences.

Other Hospitals. Various cooperative teaching and training programs are available for medical and allied health professional students and house staff at other hospitals including McPherson Hospital in Durham, Asheville Veterans Administration Hospital in Buncombe County, Murdoch Center for Retarded Children and John Umstead Hospital in Butner, Dorothea Dix Hospital in Raleigh, and Cabarrus Memorial Hospital in Concord, North Carolina.

Program Information



The Medical Curriculum

In recent years, analysis and appraisal of medical curricula have resulted in changes in many medical schools. Several factors have required these changes. Important among them are the increasing scope and complexity of medicine generally and the dissatisfaction with the sharp cleavage between basic science and clinical years. As a result of long study, the Duke University School of Medicine instituted a major revision of the curriculum, beginning with the class which entered in the fall of 1966.

The aims of the present curriculum are: (1) to provide a strong academic basis for a lifetime of growth within the profession of medicine, with the development of technical competence, proficiency, and the proper attitudes peculiar to the practice of medicine as well as an appreciation of the broader social and service responsibilities; (2) to establish for the first year a basic science program which will fulfill the purposes of the increasingly heterogeneous student body; (3) to offer both clinical and basic science education simultaneously; (4) to permit the student to explore personal intellectual preferences and capabilities; (5) to allow indepth study in selected areas, either clinical or basic science; (6) to provide greater freedom of course selection and thus to encourage earlier career decision; and (7) to achieve better integration of the medical school curriculum with residency training and the practice of medicine.

The curriculum, while offering a previously unattainable degree of flexibility to medical education and new opportunities for intellectual exploration, also makes heavy demands upon the student. It should be recognized that medical students at the Duke University School of Medicine are expected to maintain a consistent level of performance and to demonstrate qualities of initiative and dedication to their chosen profession. A scholarly attitude toward medicine that will continue throughout an entire career is an important objective of the Medical School. The foundations of this attitude to learning should accompany the student upon entering.

Students are expected to maintain at all times a professional attitude toward patients, to respect confidences, and to recognize that they are the recipients of privileged information only to be discussed within the context of scholarship and in circumstances that truly contribute to the educational process or to the care of the patient. This attitude involves consideration not only of speech and personal appearance but also of morality, honor, and integrity.

Doctor of Medicine Degree

The degree of Doctor of Medicine is awarded, upon approval by the faculty of Duke University, to those students who have completed the curriculum of the School of Medicine and have demonstrated their fitness to practice medicine by adherence to a high standard of ethical behavior and morality. Only those who have paid or made satisfactory arrangements to pay all indebtedness to the University will be awarded their degrees. Students are required to pass Part I and Part II of the National Board Examinations prior to graduation. Part I is customarily taken in September following successful completion of the first year, and Part II after the second year.

Course Requirements—First Year. The student will study the principles of all the basic science disciplines. Rather than mastering an encyclopedic array of facts, the purpose will be to acquire familiarity with the major principles of each subject. An introduction to clinical medicine will be presented by the clinical services. The year will be divided into two terms of instruction, of eighteen weeks and twenty-three weeks, as follows:

Semester 1	Credit
Gross Anatomy	3
Microanatomy	3
Neuroanatomy	2
Biochemistry	5
Physiology	5
Genetics	1
	19
Semester 2	Credit
Pathology	5
Microbiology	5
Introduction to Clinical Diagnosis: Laboratory, Physical, and Radiologic Diagnosis	5
Pharmacology	4
Human Behavior	2
Community and Family Medicine	1
Immunology	1
	23

Course Requirements—Second Year. Satisfactory completion of the first year curriculum is a prerequisite to the second year curriculum. The second year will provide an exposure to clinical science disciplines, which permits students early in their careers to become participants in the care of patients. The acquired appreciation of the problems of the clinical areas and the opportunities to recognize the applications of the basic sciences should lead to a more meaningful selection of courses for the subsequent two years. The second year will be divided into six terms of eight weeks each—medicine, obstetrics, pediatrics, psychiatry, surgery, and family medicine.

Course Requirements—Third and Fourth Years. Satisfactory completion of the second year curriculum is a prerequisite to the elective curriculum. These two years will be made up of elective courses, selected by the student within requisite limitations. Each student will choose professional advisers from the preclinical and clinical faculties to assist in formulating the program for the third and fourth years. Half of the time must be devoted to basic science and half to clinical science. Recipients of a Ph.D. degree in a basic science subject or completion of one of the special study programs may fulfill the requirements for basic science.

The elective courses of study offered are described under each department. The wide selection affords an opportunity for students to design programs to best



satisfy their needs, with guidance from their advisers. Thirty-six credits in each elective curriculum, i.e., basic science and clinical science, are required for graduation.

As an alternative after completion of the second year, the student may enroll as a Ph.D. candidate in one of the basic sciences, earning this degree in two or three years. Then, having completed three of the four years necessary for a Doctor of Medicine degree, the student may earn that degree by completing a fourth clinical year.

The third and fourth years will be divided into four terms of sixteen weeks each. Certain courses as noted will be offered during the summer term.

Promotion. Certification by the individual faculty person or by the delegated representative of each departmental Chairman where appropriate that a student has satisfactorily completed requirements for a course shall constitute grounds for a grade of "passing" or a grade of "passing with honors." "Passing with honors" is reserved for those students who have performed in an extraordinary manner in the opinion of the faculty.

An "incomplete" grade shall be reserved for those students who have not met all of the requirements because of illness or other such extenuating circumstances. "Incompletes" that are not satisfied within one calendar year automatically become "failures." It is the departmental chairman's responsibility or that of the delegated representative of the departmental Chairman to certify that an "incomplete" has been satisfied and to so notify the Registrar and Associate Dean for

Medical Education. A "passing grade" shall be placed alongside an "incomplete" on the permanent and official transcript. All first year courses must be satisfactorily completed before a student may enroll in second year courses. All second year courses must be satisfactorily completed before a student may enroll in the elective curriculum. In addition, students are required for promotion to the fourth year to pass Part I and Part II of the National Board of Medical Examiners or have permission of the Medical School Advisory Committee in lieu of passage of these examinations. Part I is customarily taken following successful completion of the first year and Part II after the second year.

A "fail" grade is recorded on the permanent record of a student by the Registrar upon certification by the individual faculty person or the delegated representative of the departmental chairman that unsatisfactory work has been done in the opinion of the faculty. Failures cannot be erased from the permanent record but the requirements of the course may be satisfied by repeating the course in a satisfactory manner at which time a passing grade is placed alongside the grade of "fail" on the official and permanent transcript.

Each student's record will be reviewed periodically by promotions committees composed of the departmental chairmen. There will be two such committees: one for basic science and one for clinical science. Recommendations by these committees will be made to the Dean of Medical Education who may follow one of several options:

1. Promote students whose work is satisfactory;
2. Warn students whose work is less than satisfactory that they must improve their scholastic endeavor;
3. Place on probation students whose work is unsatisfactory; or
4. Request the resignation of any student who is considered an unpromising candidate for the degree of Doctor of Medicine.

A student wishing to appeal a decision may do so to the Dean of Medical Education within two weeks of notification.

The Dean of Medical Education, with the advice of the Medical School Advisory Committee, reserves the right to require the withdrawal of any student at any time if, in his opinion, the student should not continue in the School of Medicine.

Satisfactory Progress. Satisfactory progress for students in the School of Medicine shall be construed as the successful completion of all requirements necessary for the advancement from one year to the next. These requirements are as follows:

First to Second Year. Completion of core basic science courses and introduction to clinical medicine.

Second to Third Year. Completion of core clinical science courses within fourteen months.

Third to Fourth Year. Completion of 36 elective course credits within one calendar year; evidence of passing National Board of Medical Examiners, Parts I and II.

Fourth Year to Graduation. Completion of an additional 36 elective credits within one calendar year.

Leave of Absence. With the approval of the Dean of Medical Education, the Associate Dean of Medical Education, or the Assistant Dean for Medical Student Affairs, a student may be granted an official leave of absence for two or more consecutive terms but not to exceed one calendar year. In the following circumstances a student must request a leave of absence: a freshman who will not be enrolled for the entire first year; a sophomore who will not be enrolled during an entire term and, thereby, not complete the core clinical science courses within

fourteen months; and a third or fourth year student who will not be enrolled for consecutive terms in the fall, spring, and/or summer.

A student who does not enroll for a period longer than one year must seek readmission by application to the Medical School Admissions Committee.

Combined Degree Programs

Medical Scientist Training Program. The Medical Scientist Training Program is designed for highly qualified students strongly motivated toward a career in medical sciences and academic medicine. It provides an opportunity to integrate graduate education in one of the sciences basic to medicine with the full clinical curriculum of the School of Medicine. The program requires, on the average, six to seven years of study and leads to both the M.D. and Ph.D. degrees. Although the special emphasis of this program is on basic medical science, the trainees, because of their education in clinical medicine, have a remarkable range of career opportunities open to them. Graduates of this program follow one of two broad paths. Some embark directly on careers in teaching and research in one of the basic medical sciences, while maintaining strong ties with clinical science as a result of their combined training. Others enter residency programs before pursuing investigative and teaching careers in clinical medicine, carrying with them strong academic backgrounds which allow them to conduct fundamental research with a foundation of superior training and experience in basic sciences.

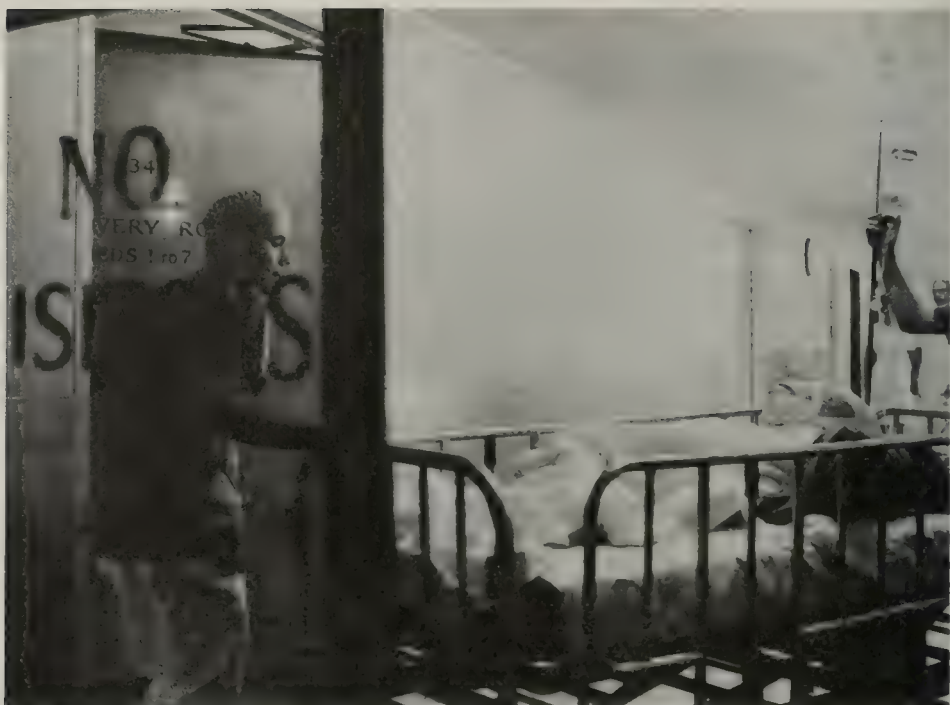
Eligibility. Applicants must meet the admission requirements of both the Medical School as a candidate for the M.D. degree, and the Graduate School as a candidate for the Ph.D. degree. Most candidates apply for admission to the first year of the program, but applications are accepted from students who are in residence in the Medical School or Graduate School of Duke University. In addition to the minimum requirements for acceptance to the Medical School and the Graduate School, advanced course work in science and mathematics and prior research experience (or other evidence of research aptitude) will count heavily in the selection of candidates.

Financial Support. Students admitted to the first year of the program will receive a traineeship award, consisting of a stipend and full tuition allowance, provided by a National Research Service Award from the National Institutes of Health. Currently the annual stipend, defined by NIH policy, is \$5,040, and financial support from that award can be furnished for up to six years, assuming normal progress.

The Training Program. This program has been designed to offer trainees great latitude in the selection of course material. Basic requirements are two academic years composed of the first basic science year and the second clinical science year of the curriculum for medical students at Duke University. Following completion of the second year, the trainee enters the graduate program to complete the requirements for the Ph.D. degree. One more academic year of elective clinical study is necessary to complete the requirements for the M.D. degree. Both degrees are awarded at the completion of this sequence. Minor variations in this schedule can be arranged if this is advantageous to the student's education.

Year 1—Core Basic Science Year. This year consists of courses in anatomy, biochemistry, genetics, microbiology, pathology, pharmacology, and physiology. An introduction to clinical methods concludes the first year. Students in the Medical Scientists Training Program work together throughout the first year, during which time they are encouraged to select their fields of graduate study. In the summer between the first and second years, trainees normally will be expected to begin the second year clinical rotations.

Year 2—Core Clinical Science Year. This year encompasses a comprehensive approach to medicine oriented to the patient as a whole. The year provides



fundamental training in clinical medicine, with emphasis on the relationships between general biological processes, from conception through birth, development, and maturation to senescence and death, as well as individual clinical states. Special consideration is devoted to the pattern of developmental sequences and to the changes in that pattern determined by genetic composition and the particular environment in which the patient lives.

During the second year, the trainee is taught primarily by teacher-investigators from the clinical departments. The core clinical year is divided into six terms of eight weeks each, encompassing medicine, obstetrics, pediatrics, psychiatry, surgery, and family medicine. These may be taken in any sequence.

Years 3, 4, 5, (6)—The Graduate Years. During the third, fourth, and fifth and, if necessary, sixth year of the program, the trainee pursues graduate study to satisfy the requirements for the Ph.D. degree. These requirements include: (1) completion of necessary course work, (2) adequate performance in the preliminary examination, (3) original research suitable for a dissertation, and (4) successful defense of the thesis in the final examination. Detailed description of the other general requirements for the Ph.D. degree are stated in the *Bulletin of the Graduate School*.

The graduate curriculum of each trainee is developed in consultation with the director of graduate studies of the department in which the trainee elects to study and requires the approval of the Medical Scientist Training Program Committee. Since most of the ordering ideas and experimental techniques of all the medical sciences derive from mathematics and the physical sciences, it is essential to ensure that all students in the program have an adequate foundation in these subjects. Because of the close working relationship and geographical proximity of the departments of medical and physical sciences at Duke, the setting is unusually favorable for the achievement of that goal.

Descriptions of the graduate courses in the Departments of Anatomy, Pathology, Microbiology, Biochemistry, Genetics, Physiology, Pharmacology,

Biomedical Engineering, and Computer Science are listed in the *Bulletin of the Graduate School*. Trainees are encouraged to select courses which relate to their developing individual interests rather than follow a prescribed curriculum applied to all students in a given discipline. Such range, flexibility, and freedom are the essence of graduate education. The original research and dissertation of each trainee is supervised by a faculty adviser chosen by the trainee in consultation with the Director of Graduate Studies in the appropriate department. The faculty adviser is the chairman of the trainee's supervisory committee, which consists of at least three members from the major department. This committee generally administers the preliminary examination before the student commences original research and the final examination after the student completes the dissertation.

Final Year—An Elective Year in Clinical Science. In this year, which is entered only after completion of all requirements for the Ph.D. degree, a faculty adviser from the clinical discipline in which the student is most interested is assigned. The student and the adviser construct an individualized curriculum, which often places major emphasis on one clinical area and minor emphasis on other fields. One aim is the integration of research interests and clinical experience in such a way that the student's research competence will be facilitated; therefore, this year is planned with regard to the trainee's proposed career in research as well. This elective year provides further training in clinical medicine to complement the second or core clinical year, so that the trainee's total clinical experience is the same as that given in the regular clinical years of medical school (the third and fourth years in the majority of schools). It should be noted that since students in the program receive the M.D. degree upon completion of this final year, great care is taken by the faculty to ensure that students are competent and knowledgeable in current concepts of patient care. It is hoped that the final year will provide the student with an experience which is not repeated during the residency but will serve to complement later phases of training. Thus, future surgeons might be exposed to fields other than surgery, since they will receive intensive training in that discipline during their residency programs.

Application and Admission Procedure. The following guidelines should be observed by individuals applying to the Medical Scientist Training Program.

1. The application form for the Duke University School of Medicine should be completed and submitted as early as possible. Since acceptance into the Medical Scientist Training Program is contingent upon acceptance into the School of Medicine, all candidates are first considered to be applicants to the School of Medicine.
2. The application form for the Medical Scientist Training Program should be completed and submitted with the application to the School of Medicine. *To ensure full consideration by the Program Selection Committee, this application should be mailed no later than 1 November.*
3. To facilitate review of this application, the Medical College Admission Test should be taken, if possible, in May of the year in which the application is submitted.
4. Only those applicants who are accepted for the program are requested to complete an application form for the Graduate School. The Graduate Record Examination is not required for this purpose.
5. Applicants are notified about acceptance into the program on or about 15 February.

Additional information may be obtained by writing Henry Kamin, Ph.D., Associate Director, Medical Scientist Training Program, Department of Biochemistry, Duke University Medical Center, Durham, North Carolina 27710.

The Medical Historian Program. The Medical Historian Program is conducted under the auspices of the School of Medicine and the Graduate School. Two

courses are offered: a combined M.D.-Ph.D. (extending over six years) and a M.D.-M.A. (four or five years depending on use of summer sessions). The choice of Ph.D. or M.A. depends on the career goals of the student. Those wishing to put a major effort into scholarly activities in the history of medicine will generally be advised to undertake the Ph.D. The M.A., taken separately from the M.D., will be attractive to physicians already in practice who wish to pursue an interest in the history of medicine more effectively.

The basic requirements for both courses are two academic years in the School of Medicine consisting of core basic sciences in the first year and core clinical rotations in the second year. The student then enters the Department of History. A range of appropriate courses are available. Following the completion of the Ph.D. or M.A., the student resumes requirements for the M.D. degree.

Application and Admissions Procedures. Applicants must meet the requirements for admission to the School of Medicine and the Graduate School in the Department of History. Candidates who have completed two years of medical school will also be considered. In addition to the minimum requirements established by the School of Medicine and the Graduate School, courses in history and in the history and philosophy of science will count in the selection of candidates.

Applicants should complete and submit an application form to the Duke University School of Medicine. After acceptance, selected candidates will be requested to submit an application to the Graduate School for admission to the Department of History.

Additional information may be obtained by writing to the Director, Medical Historian Program, Box 3702, Duke University Medical Center, Durham, North Carolina 27710.

The Medicine and Public Policy Program. This program, which normally requires a maximum of five years to complete, is offered to meet the growing demand for persons who combine medical skills and training with a capacity for analytic public decision-making. It aims at training those persons with requisite talent to be leaders in the development and implementation of health policy at all levels of government. Such leadership might be provided as an elected or career public official, as a leader of medical professional organizations, or as a practicing physician or medical scholar active in public affairs.

Utilizing the faculty and resources of the School of Medicine and the Institute of Policy Sciences and Public Affairs, the program offers students a multidisciplinary education that aims at providing:

1. A complete course of study in basic medical sciences and clinical training in the practice of medicine identical in scope and rigor with the education received by students enrolled in the Doctor of Medicine program alone;
2. Familiarity with the organization and financing of health services, with particular focus on the economics and politics of health care;
3. An understanding of the political, bureaucratic, and social processes that define public problems and limit alternative approaches to their solutions;
4. A capacity for quantitative and logical methods of analysis useful in forecasting and appraising policy consequences and in evaluating existing policies;
5. An understanding of the uses and limitations of various analytic techniques and an awareness of the value considerations and ethical choices implicit in particular policy alternatives.

During the first two years at Duke, students enroll in the normal course of study in the School of Medicine. In the third year, course work shifts primarily to the Institute. In the fourth year, students do most of their work in the School of Medicine and complete a client-oriented study of a particular problem in health policy. During the fifth year, students complete their requirements in the School of

Medicine, at the completion of which they receive both the M.D. and A.M. in public policy sciences degrees.

Admissions. Students may apply for admission to the program in medicine and policy sciences concurrent with application to the School of Medicine or during their first or second years.

Applications. Requests for applications and specific questions about the program should be addressed to the Director of Graduate Studies, Institute of Policy Sciences and Public Affairs, P.O. Box 4875, Duke Station, Durham, North Carolina 27706.

The M.D.-J.D. Program. The School of Medicine and the School of Law of Duke University jointly sponsor a program of combined medical and legal education. The program provides an opportunity to acquire a full basic study of the two fields. Upon satisfactory completion of the required course of study, candidates will be awarded both the M.D. and the J.D. degrees.

Course of Study. The student in the M.D.-J.D. Program begins a six-year course of study in the School of Medicine. As in the regular M.D. Program, the first year is devoted to the basic medical sciences and the second year to the basic clinical disciplines. At this point the student enters the School of Law, where the first-year curriculum is the same as that of other law students. During the next two years the student may select courses in the Law School which are of special application to medical-legal interests. The sixth and final year is spent in elective clinical work in the Medical School tailored to the student's specialized needs. In addition, the student completes eighteen semester hours, or two summer sessions of elective basic science work.

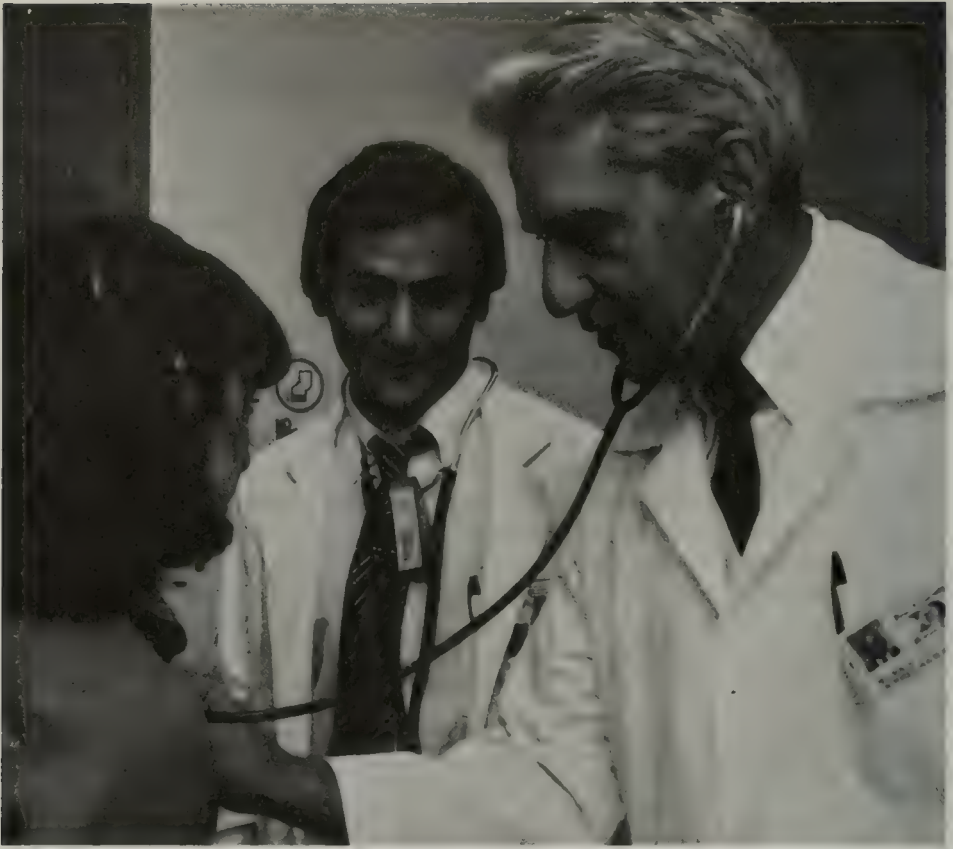
Eligibility. Applicants for the M.D.-J.D. Program must qualify for admission to both the School of Medicine and the School of Law. The usual approach is to apply for both schools simultaneously, thus reserving a place in the program prior to arrival. Applications are also accepted from members of the first and second year medical school class for admission to the School of Law and from the third year law school class for admission to the School of Medicine.

Application Procedure. Application forms for the School of Law may be obtained by writing to the Dean, Duke University School of Law, Durham, North Carolina 27706. Applications for the School of Medicine may be obtained by writing to the Committee on Admissions, Box 3710, Duke University Medical Center, Durham, North Carolina 27710.

Deadlines. For those seeking simultaneous admission to both schools: spring—at the end of the junior year take the new Medical College Admissions Test (MCAT). June—at the end of the junior year take the the Law School Aptitude Test (LSAT). July—between the junior and senior years, write to the Law and Medical Schools for application forms. August—complete the Medical School application and check the box indicating "M.D.-J.D. Program." The application must be submitted prior to the 1 November deadline. September—complete the application form for the School of Law being sure to indicate interest in the "M.D.-J.D. Program" in the area designated *joint degree program*.

Because of the complexity of the admission procedure outlined above, candidates seeking simultaneous admission are urged to give early attention to appropriate deadlines for the aptitude tests and application forms.

M.D.-M.H.A. Program. The purpose of this program is to prepare individuals planning to become physicians to be also qualified to assume leadership roles in the development and management of both existing and emerging health care delivery organizations. A principal advantage to this program is that the time required for completion is five years, instead of the six to seven years which would otherwise be required.



Students undertaking this program enter after the completion of their second year of medical studies. They then take the first three semesters of the basic M.H.A. curriculum. Following this work, they return full-time to the School of Medicine to complete their third and fourth years of medical studies. In the year students return to the School of Medicine, they devote seven hours each semester (fall and spring) to a set of four required courses in the Department of Health Administration. The Medical School will accept these four courses as fulfilling a part of the medical curriculum (as basic science electives). One or more courses in the School of Medicine also may be taken during the three semesters in the department, upon approval of the department. Upon satisfactory completion of all requirements, both degrees are awarded to the candidate.

This program includes 62 semester hours of graduate course credit in addition to the School of Medicine requirements.

Admissions Requirements. With approval from the School of Medicine, a medical student may apply to the Department of Health Administration for admission to this program at any time prior to the beginning of the third year of medical studies. Criteria of acceptance by the department are the same as for its other programs.

The M.D.-M.P.H. Program. Students enrolled in the School of Medicine, after satisfactory completion of the first two years of the regular curriculum, may request approval to seek a Master of Public Health degree at the University of North Carolina, Chapel Hill, or at another approved institution. The program is designed to train physicians in epidemiology, biostatistics, environmental and occupational health, and in planning, administering, and evaluating health care delivery systems. Upon receipt of the M.P.H. degree, students are awarded one

half year (18 units) of elective credit toward the M.D. degree. This credit award, to be made by the Associate Dean for Graduate Medical Education, may be prorated between clinical and basic elective units depending upon the course of study pursued by the student.

For additional information, interested students should contact George R. Parkerson, Jr., M.D., M.P.H., Coordinator of Education, Department of Community and Family Medicine, Duke University School of Medicine, Durham, North Carolina 27710.

Commencement. Graduation exercises are held once a year, in May, when degrees are conferred on, and diplomas are issued to, those who have completed requirements by the end of the spring semester. Those who complete degree requirements at the end of the fall or summer terms receive diplomas dated 30 December or 1 September, respectively. There is a delay of about one month in the mailing of September and December diplomas because diplomas cannot be issued until they are approved by the Academic Council and the Board of Trustees.

Postgraduate Education

Residencies. Appointments are from 1 July through 30 June with few exceptions. Residents receive stipends, professional liability insurance, disability insurance, life insurance, uniforms, and laundry of uniforms.

Residencies offered with the chairman or chief of each service are as follows:

Anesthesiology.....	(Chm.) Merel H. Harmel, M.D.
Family Medicine	(Program Director) Samuel W. Warburton, Jr., M.D.
Internal Medicine	(Chm.) James B. Wyngaarden, M.D.
Dermatology	Gerald S. Lazarus, M.D.
Neurology	Allen Roses, M.D.
Obstetrics and Gynecology	(Chm.) Charles Hammond, M.D.
Ophthalmology	(Chm.) Robert Machemer, M.D.
Pathology	(Chm.) Robert Jennings, M.D.
Pediatrics.....	(Chm.) Samuel L. Katz, M.D.
Pediatric Allergy	Rebecca Buckley, M.D.
Pediatric Cardiology	Madison S. Spach, M.D.
Psychiatry	(Chm.) H. Keith H. Brodie, M.D.
Radiology	(Chm.) Charles Putnam, M.D.
Imaging	Reed Rice, M.D.
Nuclear Medicine.....	R. Edward Coleman, M.D.
Radiology Oncology	K. T. Noell, M.D.
Surgery.....	(Chm.) David C. Sabiston, Jr., M.D.
General Surgery	William G. Shingleton, M.D.
Neurosurgery	Robert H. Wilkins, M.D.
Oral Surgery.....	Nicholas G. Georgiade, D.D.S., M.D.
Orthopaedic Surgery	J. Leonard Goldner, M.D.
Otolaryngology.....	William R. Hudson, M.D.
Plastic Surgery	Nicholas G. Georgiade, D.D.S., M.D.
Thoracic Surgery	David Sabiston, M.D.
Urologic Surgery	David Paulson, M.D.

Duke University Medical Center is a participating member of the National Intern and Resident Matching Program, 2530 North Ridge Avenue, Evanston, Illinois 60201, and all applicants for first-year post-medical school appointments must register with this program.

Both men and women graduates of any L.C.G.M.E.-accredited medical school are eligible for appointment and all applicants will be considered without regard to race, color, religion, sex, or national origin.

Requests for application forms and information about straight residencies should be addressed to the Chairman of the service under which training is desired. A transcript of the medical school record is required, and must either accompany the application or be furnished by the Dean of the Medical School.

Graduates of medical schools outside the United States and Canada must hold or be eligible for the standard certificate of the Educational Commission for Foreign Medical Graduates (ECFMG), 3624 Market Street, Philadelphia, Pennsylvania 19104, to be considered for appointment to residencies. Physicians who are not U.S. citizens or permanent residents may need to pass the Visa Qualifying Exam (VQE) to be eligible for a visa. First-year positions are rarely available for foreign medical graduates. For further information contact Catheryn Cotten, Office of International Affairs, Box 3882, Duke University Medical Center, Durham, North Carolina 27710.

A North Carolina license is required for all appointees.

Reasonable requests for reduced scheduling will be considered. Inquiries should be directed to the training program directors of approved residencies or to the Office of House Staff Affairs. For further information, please contact Mary C. Fendt, Administrative Assistant, House Staff Office, Box 3951, Duke Medical Center, Durham, North Carolina 27710.

The Durham Veterans Administration Medical Center adjoins the Duke University Campus and is operated under the supervision of the Vice-President's Committee of the Duke University Medical Center. The full-time professional staff of the V.A. Medical Center are all faculty members of the School of Medicine. All training programs are integrated with corresponding programs at the Duke University Medical Center, including rotation of house officers at each hospital.

All residents and clinical fellows are required to be licensed by the State of North Carolina. This may be accomplished by (1) a residency training license (fee \$10) that covers only training by Duke and is not convertible to a full North Carolina license or (2) a full North Carolina license (fee \$100) that is a complete medical license obtained either by State Boards or National Boards and is fully reciprocal with other states for full licenses. Duke Medical Center cannot make



applications for house staff. Since house staff members should have the license before beginning duties, arrangements for the license should be made in advance. For additional licensure information, contact Bryant Paris, North Carolina State Board of Medical Examiners, 222 North Person Street, Raleigh, North Carolina 27601.

Application forms and information for residencies or fellowships may be obtained by writing the chairman of the appropriate department, Duke University Medical Center, Durham, North Carolina 27710.

Continuing Medical Education. Numerous formal postgraduate courses are given throughout the entire year for physicians in general practice as well as in all specialties. Conferences and tutorial seminars are also available to any physician who desires to attend and participate. Physicians in practice may make arrangements for a period of one day or more for courses tailored to their particular interests. These personal contacts with senior faculty and residents, including patient examinations as well as follow-up care, provide in-house training experience.

The annual one-week course held in Atlantic Beach in mid-July continues to be one of the most well-attended programs in the region.

For additional information, please contact Harry A. Gallis, M.D., Director, Continuing Education, Duke University School of Medicine, Durham, North Carolina 27710.

Student Life



The University

Duke University, located in Durham, North Carolina, has an enrollment of 9,936 students from all fifty states and from many foreign countries. Currently, Trinity College of Arts and Sciences, the Graduate School, and the Schools of Business Administration, Divinity, Engineering, Forestry, Law, Medicine, and Nursing comprise the University.

Durham, with a population of approximately 100,000, is in the Piedmont region of North Carolina, which has easy access to the sea coast and mountains. It is one of the three cities bounding the Research Triangle Park where numerous private research laboratories and governmental agencies are located. Duke University is twenty-five miles from North Carolina State University in Raleigh and eight miles from the University of North Carolina at Chapel Hill.

Conduct of Students

Duke University expects and will require of all its students cooperation in developing and maintaining high standards of scholarship and conduct.

All students are subject to the rules and regulations of the University which are currently in effect, or which, from time to time, are put into effect by the appropriate authorities of the University.

Any student, in accepting admission, indicates the willingness to subscribe to and be governed by these rules and regulations and acknowledges the right of the University to take such disciplinary action, including suspension and/or expulsion, as may be deemed appropriate, for failure to abide by such rules and regulations, or for conduct adjudged unsatisfactory or detrimental to the University.

Living Accommodations

Duke University responds to the housing needs of graduate and professional students in several ways. Accommodations are available to single students in thirty-two Town House Apartments and six modular homes, and to both single and married students in one-, two-, and three-bedroom Central Campus Apartments. Each of these residential locations is conveniently within walking or biking distance of all University facilities and provides a more home-like atmosphere as an alternative to the living environment inherent in residence halls. All these accommodations are available for continuous occupancy throughout the calendar year.

Rooms in the residence halls are available to graduate and professional students during summer school sessions only.

Town House Apartments. The attractive architecture and setting of the Town House Apartments offer the single graduate and professional student respite from normal campus life and activities. These apartments are more spacious than most apartments found on campus or in Durham. Each apartment is air-conditioned and completely furnished; ample closet and storage space are provided within each apartment. All of these two-bedroom apartments are furnished for two-person occupancy. A swimming pool located in the center of the complex is open in the late spring and summer seasons.

Modular Homes. The University owns six, prefabricated modular homes that are located one block from the main East-West Campus bus line. The three-bedroom homes are completely furnished for three-person occupancy, they provide more privacy than most apartments and have proven to be very popular.

Occupants of Town House Apartments and modular homes must make arrangements with local utility companies to pay for gas, electricity, and telephone service. These companies usually require a deposit when initial applications for service are made. (Only Town House Apartments use gas.)

Central Campus Apartments. During 1975 Duke University completed a 500-unit apartment complex. Designed in the "community style," these apartments provide economy and convenience to both single and married students of all student categories. All utilities except for telephone service are provided in the rates for these one-, two-, and three-bedroom apartments.

Spaces in apartments for single students are provided on an individual basis with each student paying rent per academic term to the University. This method permits students to share apartments with others of their choice. When this is impractical, the Department of Housing Management strives to place persons of like interests together. Single student apartments are completely furnished; an itemization of furnishings is included with the floor plans sent out in the application packet.

Central Campus Apartments are provided to married students on a lease basis and each household is responsible for monthly rental payments as specified by the lease. Married students may request unfurnished or partially furnished one-, two-, or three-bedroom apartments, the size of the apartment being congruent to family size.

Application Procedures. When students are informed of their acceptance to the Medical School they will also receive a postcard on which to indicate preference for University housing. This postcard should be returned to the Department of Housing Management. Detailed information on the types of accommodations and application forms will be forwarded to the accepted student. If additional information is desired prior to a student's acceptance, please write to the Manager of Apartments and Property, 217 Anderson Street, Durham, North Carolina 27705. Assignment to all University housing is made on a first-apply, first-assigned basis.

Off-campus Housing. The Department of Housing Management maintains a listing of rental apartments, rooms and houses provided by property owners or real estate agencies in Durham. These listings are available in the department only; during the summer an assistant is available to answer questions and aid students in their attempt to obtain housing off campus. Except for assuring that owners sign a statement of nondiscrimination, off-campus property is in no way verified and neither the University nor its agents negotiate between owners and interested parties.

Due to a shortage of available housing in the Durham area, the search for accommodations should begin as soon as possible after acceptance to the Medical

School. A visit of two or three days will allow you the opportunity to make use of the off-campus service and to inspect personally the availabilities.

Dining Facilities. The Medical Center cafeteria serves students and employees. Other dining facilities located near the Medical Center are in the Union Building, which has two cafeterias, a snack bar, and the Oak Room, and in Trent Drive Hall which has a cafeteria and Gradel's, a deli/grill service. Gradel's is open from 9:30 A.M. to midnight. See the section on Dining Facilities in the chapter on Financial Information for approximate food costs.

Services Available

Student Personal Advisory Program. One important objective of Duke University School of Medicine is to promote an informal, cordial student-faculty relationship. All entering students are matched on a voluntary basis to advisers who share mutual interests. These faculty advisers will be available to the students throughout their undergraduate medical education. Advisers are assigned from a group of faculty members who have volunteered to serve in this capacity.

Student Health Service. In recognition of the unique health needs of medical students whose activities bring them into far greater contact with communicable disease than the average university student, a special health program for medical students has been established. Each freshman will submit, prior to entry, the standard Duke History and Physical Examination form to be completed by a physician. This will include urinalysis and hemoglobin. Before entry into the first year class, all students must present written proof of current immunization status. A special form will be provided for this purpose. Immunization procedures required *before* matriculation include polio, mumps-measles, rubella, diphtheria-tetanus booster, and IPPD tuberculin test. The IPPD will be repeated in the junior year.

Students receive ambulatory care at the Student Health Clinic during regular office hours.

The main components of the Health Service include the Student Health Clinic in the Marshall I. Pickens Rehabilitation Center, located at the corner of Trent Street and Erwin Road, and the infirmary on the East Campus. For treatment of most illnesses or injuries, students should first contact the Student Health Clinic. Transportation may be made via the campus bus, or emergency transportation can be obtained from the Duke Campus Police or the Durham Ambulance Service.

The facilities of the Student Health Service Clinic are available during both regular and summer sessions to all currently enrolled full-time students attending classes at Duke. The facilities of the University Infirmary are available during the regular sessions only from the opening of the University in the fall until Graduation Day in the spring.

The resources of the Duke University Medical Center are available to all the Duke students and their spouses and children. Charges for any and all services received from the Medical Center are the responsibility of the student as are the charges for services received from physicians and hospitals not associated with Duke University.

For emergency problems when the Student Health Clinic is not open, the emergency room at Duke University Medical Center is available. The financial responsibility for expenses incurred in the emergency room rests with students or their parents.

In addition to the Student Health Service, the University makes available a plan of accident and sickness insurance to cover all full-time students who are enrolled in the University. This plan is designed to complement services normally not accessible to students through the Student Health Service coverage; it covers

students both on and off campus, at home, or while traveling between home and school during the interim vacation periods throughout the one-year term of the policy.

The Student Health Program does not provide health care for spouses and dependent children of married students. There are provisions in the insurance plan, however, for coverage of the married student's family. Preexisting conditions of dependent spouse and/or children are not covered.

The Duke Student Accident and Sickness Policy. The Duke Student Accident and Sickness Insurance Policy is available at a reasonable charge. The supplemental coverage provides coverage for hospitalization and major medical expenses. The policy is more fully described in a brochure sent through the bursar's office.

Vacations and Free Quarters. All students should take note that the Student Health Service does not provide care during quarters for which fees and tuition are not being paid.

The supplemental health insurance plan is designed to complement services normally available through the University Student Health Service in order that students may be protected at times when the service does not apply and for accidents and illnesses which it does not cover. This plan provides protection twenty-four hours per day during the full twelve-month term of the policy for each student insured. Students are covered on and off the campus, at home, while traveling between home and school, and during interim vacation periods.

Information concerning the availability of additional health care may be obtained from the Student Health Service. These rules and regulations are those in effect at the time of publication of this bulletin, but are subject to change at a later date.

Counseling and Psychological Services. Counseling and Psychological Services (CAPS) is located in Suite 214, Old Chemistry Building, on West Campus next to the Medical School. Services are available to all undergraduate, graduate, and professional students enrolled at Duke University. CAPS provides a coordinated and comprehensive range of services including evaluation and counseling regarding personal problems relating to family, social, academic, vocational, and sexual matters; psychological testing encompassing educational, vocational, and personality assessment; and psychotherapy for more serious psychological problems. While students' visits with counselors are usually by appointment, a walk-in consultation service is provided two hours each weekday for students with urgent personal concerns.

Each year CAPS offers a series of self-development seminars focusing on skills development and special interests. These explore such interests as stress-management, assertiveness training, career planning, couple's communication, and study skills. Interested students may contact CAPS for further information.

The professional staff is composed of clinical social workers, psychiatrists, and clinical and counseling psychologists who are experienced in working with young adults. When a student and a staff member have evaluated the student's concern, then individual sessions, joint sessions with couples, and/or group counseling and psychotherapy may be recommended to help the student resolve the concern. CAPS maintains a policy of *strict confidentiality* about each student's contact with the CAPS staff. Such information can be released, however, upon the student's specific written authorization.

Initial evaluation and brief counseling/psychotherapy, as well as skills development seminars, are covered by payment of the student health fee. There are no additional costs for these services. If appropriate, a referral may be made to other staff members or to a variety of local resources including multidisciplinary mental health professionals in private practice and clinic settings.

Appointments may be made by telephone or at the CAPS office. Office hours are Monday through Friday between 8 A.M. and 5 P.M. If a student's concern needs

immediate attention, it should be indicated by the student and every effort will be made for a counselor to talk with the student at the earliest possible time.

Additionally, standardized testing is administered for the University community by CAPS. These include the Graduate Record Examination (GRE), Medical College Admission Test (MCAT), Law School Admission Test (LSAT), and Graduate Management Admission Test (GMAT). CAPS also maintains a library of a wide selection of vocational and educational program resource materials to assist students in choosing a career and/or further training programs in graduate or professional study.

Another important function of CAPS is the availability of the staff to the entire University community for consultation and participation in educational activities regarding student development and general mental health issues. The staff works with other campus personnel including administrators, faculty, the Student Health Service, Religious Life Staff, Residential Advisers, Office of Placement Services Staff, and student groups such as Freshman Advisory Counselors, PISCES, and Project Wild in meeting whatever student needs are identified through such liaisons.

Student and Professional Organizations

Alpha Omega Alpha. Alpha Omega Alpha Honorary Medical Fraternity was organized nationally in 1902 and the Duke Chapter (North Carolina Alpha) was chartered in 1931. The aims of this society are the promotion of scholarship and research in medical schools, the encouragement of high standards of character and conduct among students and graduates, and the recognition of high attainment in medical science, practice, and related fields. Students who have demonstrated leadership and academic promise of future achievement are elected. Membership is limited to no more than one sixth of any class and of these as many as one half may be elected in the junior year. Honorary membership in the fraternity, as well as honorary alumni and faculty membership, may also be conferred upon certain physicians who have distinguished themselves in the various areas of medical teaching, research, and practice.

Davison Society. All medical students are dues-paying members of the Davison Society which is governed by elected officers and class representatives comprising the Davison Council. The Davison Council functions as the official representative body for Duke medical students and as such nominates or elects students to serve on all appropriate Medical Center and University committees including: MedSAC, MEPAC, Admissions, Curriculum, Judiciary, Dean's Hour, Faculty-Chairman Search, Library, Human Experimentation, and several other committees.

Currently subcommittees of the council are looking at the issues of curriculum evaluation; primary care at the Medical Center and in medical education at Duke; and communication to all students of the opportunities available for study away from the University such as externships and residencies.

Student representatives are appointed by the Davison Council to attend the annual meetings of the American Medical Student Association, North Carolina Medical Society, American Medical Association, Association of American Medical Colleges, the Southern Medical Association, and other meetings of importance to medical students. Students have been sponsored to attend the Congress on Medical Education, the AMA Congress on Medical Ethics, American Women's Medical Association, and the Student National Medical Association annual meetings.

Publications of the Davison Society include a weekly newsletter, *Shifting Dullness*, and a student directory. Socially, the society sponsors beer and pizza dinners with faculty and administrators, class parties, a spring picnic, a fall dance,



the annual spring Medical School Show, and a round-robin tennis tournament with the faculty.

Other medical student groups recognized by, and in part funded by, the Davison Society include the American Medical Student Association, the American Medical Women's Association, the Student National Medical Association, the Sex Education Committee (which runs an elective course for nursing and medical students, an evening course for undergraduates, and gives courses in the local junior high schools), *First Contact* (a bimonthly periodical devoted to ethical, social, and political issues in medicine), and the East End Clinic (a free clinic run by medical, nursing, pharmacy, and other students from Duke and the University of North Carolina, Chapel Hill).

The Honor Code is also authorized and administered by the Davison Society.

The Engel Society. The Engel Society, established in 1966 as a memorial to Professor Frank L. Engel, is designed to promote intellectual and social interaction between students and faculty. Membership is limited to six junior students and six senior students who have demonstrated an inquisitive nature, humanitarian interests, and high scholastic ability. Four faculty members are selected annually by members of the society for three year terms. Six dinner meetings with guest speakers are held each year. Other students may be invited to participate.

Ganglion Society. The Ganglion Society (the Duke neuroscience society) seeks to promote interest in the neurosciences and to facilitate communication among individuals studying and working in this multidisciplinary field. To accomplish this, the society publishes *The Neurotransmitter*, a weekly bulletin of local events in the basic and clinical neurosciences. It also sponsors informal evening discussion sessions featuring visiting scientists and clinicians prominent in one or more areas of the neurosciences. Membership and participation in these activities is open to anyone with an interest in the neurosciences.

Duke University Medical Alumni Association. The Duke Medical Alumni Association consists of nearly 6,000 members including all graduates of the Medical School, past and present faculty, and all past and present house officers of Duke Hospital. A newsletter is sent to all members three times annually. November reunions are held each year in Durham. Alumni groups meet in several states and meetings are held in conjunction with the meetings of the American Medical Association, the American College of Physicians, the Southern Medical Association, the North Carolina Medical Society, and several departmental specialty society meetings.

Officers. President: Thaddeus B. Webster, M.D., 1951, Lumberton, North Carolina; Secretary-Treasurer: Jay M. Arena, M.D., 1932, Durham, North Carolina; R. C. "Bucky" Waters, Director; Janet Sanfilippo, Associate Director.

Awards and Prizes

Davison Scholarship. The Davison Scholarship award, consisting of \$1,000, was formerly donated by the late Dean Wilburt C. Davison. The award is now supported by the Davison Club in the memory of Dean Davison and is awarded to enable a medical student to participate in a clinical science elective outside the United States preferably in an area of primary care. Any student may apply for the award. For consideration for the scholarship, the elective must be approved by the Study Away Committee.

Thomas Jefferson Award. This award, consisting of \$100, a certificate, and a book recognizes a graduating senior student who has made outstanding contributions to the University or to fields which have not been traditionally confined to science and medicine. The award is given by the Awards Committee.

Lange Medical Publications Awards. Two seniors selected by the Awards Committee for excellence in academic and service work are awarded four books published by the Lange Medical Publications. The books are selected by individual recipients.

The Joseph Eldridge Markee Memorial Award in Anatomy. This award, donated by the friends and family of the late Dr. J. E. Markee, James B. Duke Professor of Anatomy and Chairman of the Department of Anatomy from 1943 to 1966, consists of a certificate, medallion, and cash award of \$200. It is presented by the Department of Anatomy to the most outstanding student in anatomy during the first year in the Medical School.

C. V. Mosby Book Award. Four graduating senior students are selected by the Awards Committee for active participation in service to the students, community, and medical school. The award is a Mosby book not to exceed \$30.

Trent Prize. An annual award of \$100 is given to a Duke medical student for the best essay on any topic in the history of medicine and allied sciences. Mary Trent Semans established this award in memory of the late Josiah C. Trent to encourage students to undertake independent work in the history of medicine and to utilize the resources of the Trent Collection.

Upjohn Award. The award consists of \$200 cash and a certificate and is presented to a Duke graduating senior for excellence in community health science projects and service to the community.

Sandoz Award. This award is given to a senior student who has done distinguished work in basic science research or clinical research. Students will be nominated for this award by departmental Chairmen with whom their work has been done. The work must have been presented at the AOA symposium and voted upon by the Awards Committee. It consists of a plaque and a check for \$100 and is limited to one student.

Ciba Award. This award is given to a student who has contributed to the health care of the community. Students are nominated by the student body and voted upon by them. The award consists of the complete set of medical illustrations and text by Frank Netter.

Other Awards. Throughout the year, Duke Medical School receives notification of awards consisting of books, money, and/or plaques or medals to be awarded to students in a variety of fields at all medical schools on a national competitive basis selected by committees of the sponsoring organizations. These awards are screened by the Assistant Dean for Student Affairs who announces awards which are of interest to the Duke medical students. Since these are national competitions, they vary from year to year.



Admission



Admission Procedures

Good study habits, intelligence, character, and integrity are essential qualifications for admission. Beyond this, premedical students should strive for an education that develops abilities to observe critically, think analytically, and work independently. Though a knowledge of basic scientific principles should be secured, the competence with which premedical students conduct their undergraduate careers is of more importance than the specific subjects which they study.

Application for Admission. Application forms for the Duke University School of Medicine may be obtained by writing the Committee on Admissions, Box 3710, Duke University Medical Center, Durham, North Carolina 27710. Prior to 1 April, all requests for application materials will be assigned to a mailing list. The materials will be forwarded during the first week in April; applications will be accepted between 1 June and 1 November. The deadline for receipt of application requests is 6 October, and the deadline for receipt of applications is 1 November.

Requirements. Admission to the School of Medicine requires a minimum of ninety hours of approved college credit including one year of college English (consisting primarily of expository English composition), one year of inorganic chemistry, one year of organic chemistry, one year of physics, one year of biology and/or zoology, and one year of calculus. All science requirements must be completed not more than seven years prior to entrance.

The New Medical College Admission Test, administered by the American College Testing Programs and Services, P.O. Box 414, Iowa City, Iowa 52240, is required of all applicants. This test is given in April and September of each year at numerous colleges throughout the United States. Students should consult their premedical advisers and arrange to take this test in April of the year they plan to submit applications for admission.

Selection

The earliest date of notification of acceptance is 15 October for students entering the following August. Data on each candidate are carefully evaluated by the Committee on Admissions. If the distance is not too great, a personal interview will be conducted at Duke for those students with satisfactory credentials. Other candidates will be referred for personal interviews with regional representatives of the Admissions Committee. Those candidates who demonstrate the most promise for exceptional performance in their future practice of medicine are admitted on the basis of merit and are notified as soon as possible whether or not they have



been accepted. In order to ensure enrollment, accepted candidates must return a signed agreement and a \$50 deposit within three weeks after notification. Since admission is offered a considerable period in advance of matriculation, it is provisional upon the successful completion of remaining required premedical college courses.

Transfer

Applicants who have completed the basic sciences in other medical schools will be considered for transfer only as space permits. Such transfer students are required to complete the second and fourth years of the Duke curriculum.

Performance of Part I of the National Board Examination or MSKP is a requirement for transfer applicants. Duke does not sponsor applicants to take the National Board Examination, although the scores must be received as part of the evaluation procedure.

The policy governing tuition for transfer students is that they will pay the same tuition in their initial year and all subsequent years as the class with which they enter.

Requests for application materials are accepted after 15 November. 1 March is the deadline date for the receipt of applications. Personal interviews will be arranged for those with satisfactory credentials. Transfers into the freshman or senior year are not permitted.

Advanced Placement

Advanced placement is offered to qualified first-year students on an optional basis for the following first semester courses: anatomy, biochemistry, genetics, and physiology. Students desiring consideration for advanced placement are required to take examinations in applicable subjects during the first week of medical school. Those who are granted and accept advanced placement for a specific course are not required to enroll in that course but will be responsible for arranging mutually satisfactory substitutions with the appropriate department Chairman.

Students who have been awarded Ph.D. degrees in biomedical or preclinical sciences may apply for a three-year program to obtain their M.D. degrees. This program consists of the regular core basic science courses required of all freshman



medical students, core clinical rotations during the second year, followed by senior clinical electives.

Reapplication

Students who wish to apply for a second time should write to the Medical School Admissions Office requesting new application forms. Supporting documents will be transferred to the new application file. These documents will be kept on file for three years.

Enrolled students who have been dismissed from Duke Medical School may be considered for readmission only through reapplication to the Medical School Admissions Committee.

Summary

Three years of college work, forty-five dollars (\$45) nonrefundable application fee, fifty dollar (\$50) deposit within three weeks of notification of acceptance, and the New Medical College Admission Test are required. The number of students in the 1982-83 freshman class is 114.

Application requests are accepted from 1 April to 6 October. Applications for admission must be received between 1 June and 1 November 1982. Students will be notified beginning 15 October 1982. Orientation begins 19 August 1983.

Roster of Regional Representatives of Admissions Committee

Alabama:	<i>Birmingham, Ben V. Branscomb; Tuskegee, Alexander W. Boone, Jr.</i>
Alaska:	<i>Anchor Point, Milo H. Fritz; Sitka, J. Paul Lunas</i>
Arizona:	<i>Phoenix, Robert H. Barnes; Scottsdale, Boyd H. Metcalf</i>
Arkansas:	<i>Little Rock, Rosalind Smith Abernathy, E. Clinton Texter, Jr.</i>
Belgium:	<i>Liege, Emile F. LeClercq</i>
California:	<i>Anaheim, George Hayter; Bakersfield, Victor S. Constantine; Berkeley, H. I. Harvey; Beverly Hills, Ben Kohn; Burlingame, J. M. Javer, Lester H. Margolis, Andrew Nadell; Fontana, Henry L. Burks; Irvine, A. Brian Davis; Los Angeles, Earl W. Brian, Walter Lusk, Kenneth P. Ramm, Douglas F. Smiley; Menlo Park, Gustave Freeman; Oceanside, Barry B. Campbell; Palo Alto, James B. Golden; Redlands, Perry Dyke; Riverside, James S. Mayson; Sacramento, William R. Nesbitt; San Bernardino, Irving E. Allen; San Diego, Donald J. Williams; San Francisco, Gert Brieger, Philip G. Hoffman, Bruce Horten, David W. Martin, Jr., R. Gray Patton; Santa Barbara, John A. Baumann; Woodland Hills, Andrew A. Bonin</i>
Canada:	<i>Montreal, J. E. Gibbons; Toronto, John B. Armstrong, J. Stonewall Dorsey</i>
Colorado:	<i>Denver, John Ray Pryor, Fred W. Schoonmaker</i>
Connecticut:	<i>Hartford, William H. Glass; New Haven, Saul A. Frankel, Ned M. Shutkin</i>
District of Columbia:	<i>Washington, Linda E. Green</i>
England:	<i>Bentwaters, John P. Tindall</i>
Florida:	<i>Boca Raton, Eugene L. Horger; Lakeland, John Verner, Jr.; Miami, Stanley J. Cannon, James J. Hutson; St. Petersburg, David S. Hubbell; Tampa, Richard G. Connor</i>
Georgia:	<i>Albany, Havner H. Parish, Jr.; Atlanta, Crawford F. Barnett, Jr.; Decatur, William W. Blackburn</i>
Hawaii:	<i>Kailua, Stanley Karansky; Honolulu, James G. Harrison</i>
Idaho:	<i>Boise, William L. Venning; Idaho Falls, Reid H. Anderson</i>
Illinois:	<i>Chicago, George H. Gardner, Daniel J. Pachman, Joe L. Simpson; Des Plaines, Earl N. Solon; Evanston, Donald R. Mundie, Milton Weinberg, Jr.; Geneva, Charles A. Hanson; Monmouth, Kenneth E. Ambrose</i>
Indiana:	<i>Angola, Norman W. Rausch; Indianapolis, John D. Graham</i>
Kansas:	<i>Emporia, Gould C. Garcia; Salina, Roy B. Coffey</i>
Kentucky:	<i>Lexington, Kearns R. Thompson; Louisville, Billy Franklin Andrews, George Uhde</i>
Louisiana:	<i>New Orleans, Nancy Haslett, James A. Knight, Richard M. Paddison, Virginia Porter</i>
Maine:	<i>Portland, E. Charles Kunkle</i>

Maryland:	Baltimore, C. Edward Leach; Towson, William C. Battle
Massachusetts:	Boston, Herbert W. Clegg III, Richard J. Kopelman, Ellison C. Pierce, Jr.; Stephen Sohn; Cambridge, Paul N. Chervin; Springfield, George A. Sotirion
Michigan:	Ann Arbor, George E. Bacon, Donald L. Rucknagel, Joann A. P. Wilson; East Lansing, Norbert Enzer; Grosse Pointe, John M. Lesesne
Minnesota:	Minneapolis, Lewis W. Wannamaker; Rochester, William M. O'Fallon
Missouri:	Columbia, John T. Logue; Creve Coeur, Roman L. Patrick; St. Louis, W. Edwin Dodson, Thomas B. Ferguson, James R. Gavin III
Nebraska:	Omaha, Gayle H. Bickers, Helen Starke
New Hampshire:	Grantham, William T. Davison; Hanover, George Margolis, R. J. Vanderlinde
New Jersey:	New Brunswick, Bernard A. Rineberg; Paterson, Linda F. Rankin; Piscataway, William E. McGough; Watchung, R. Christopher Stucky
New Mexico:	Artesia, C. Pardue Bunch
New York:	Endicott, Vincent Giordano; Ithaca, John G. Maines; Lockport, Frank H. Crosby; New York, Joan S. Adams, William A. Gay, Jr., David S. Goldman, Kenneth G. Gould, Eddie L. Hoover, Seymour R. Kaplan, Michael J. Lepore, Phyllis C. Leppert, Leonard H. Schuyler, Robert A. Shimm, David N. Silvers, Nathan St. Amand, Melvin L. Thrash; Pittsford, Rufus S. Bynum; Rochester, Marvin S. Amstey, David N. Broadbent; Syracuse, Herbert Lourie, L. Stewart Massad, James E. Sheehy; West Point, Walton Curl
Ohio:	Cincinnati, Murray B. Sheldon, Jr.; Cleveland Heights, Robert B. Kubek; Columbus, Robert J. Atwell, Charles A. Doan, David S. Forth, Lucy R. Freedy, George W. Paulson, James V. Warren; Dayton, Thomas Wilson; Elyria, William L. Hassler; Toledo, George F. Alter
Oklahoma:	Muskogee, Robert H. Gibbs
Oregon:	Eugene, Paul W. Jones; Portland, Joseph F. Paquet
Pennsylvania:	Bethlehem, Ralph K. Shields, James G. Whildin; Bryn Mawr, John V. Blady; Camp Hill, Alfred J. Sherman; Doylestown, Zachary A. Simpson; Dunmore, Louis C. Waller; Harrisburg, Earl S. Moyer; Johnstown, W. Frederick Mayer; Philadelphia, Max W. Fischbach, Alfred M. Sellers; Pittsburgh, Richard A. Green, Jack D. Myers
Puerto Rico:	Sanurce, Rafael Hernandez-Saldana
Rhode Island:	Lincoln, Henry G. Magendantz; Providence, Benjamin T. Jackson, Richard P. Sexton
South Carolina:	Charleston, Edward Frost Parker; Columbia, Collin F. Baker, Ben N. Miller, James M. Timmons; Greenville, Raymond C. Ramage
Tennessee:	Chattanooga, Richard Van Fletcher; Knoxville, Alan Solomon; Nashville, Walter G. Gobbel, Jr., Alexander C. McLeod, Greer Ricketson
Texas:	Austin, Frank A. Morris, Jr.; Dallas, Reuben H. Adams, W. Crockett Cheers, Jr., William Shapiro; Houston, Elizabeth B. Powell, Peter T. Scardino, H. Grant Taylor; Midland, Dorothy B. Wyvell
Utah:	Salt Lake City, N. Branson Call, Andrew Deiss
Vermont:	Burlington, Edward S. Horton
Virginia:	Richmond, R. Lewis Wright; Waynesboro, Thomas L. Gorsuch
Washington:	Bellevue, David T. Pitkethly; Bothell, Ronald C. Reed; Longview, Clifford J. Schostal
Wisconsin:	La Crosse, C. Norman Shealy; Milwaukee, Jack L. Teasley
Wyoming:	Sheridan, James L. Scott; Teton Village, John A. Feagin

Financial Information



Fees and Expenses

Tuition. The following table represents an estimate of a student's necessary expenses in the School of Medicine. The total of these figures suggests a basic minimum budget of approximately \$13,000. These are estimated figures only and are based on a 1978 survey of enrolled students. Tuition and fees are subject to change without notice. Allowances for recreation, travel, clothing, and other miscellaneous items must be added to this estimate with allowances for individual needs and tastes.

Tuition	\$7,770.00
Accident and Sickness Insurance (subject to change)	125.50
Instruments* (first year only)	425.00
Laboratory Fee (includes microscope rental, first year only)*	150.00
Laboratory Coats	60.00
Annual Cost of Books: first year	452.00
Annual Cost of Books: second year	300.00
Annual Cost of Books: third and fourth year	151.00
Lodging	2,078.00
Board (University Dining Halls): first and second year	1,861.00
Board (University Dining Halls): third and fourth year	1,674.00
Student Health Service†	212.50
Student Government (Davison Society)†	15.00
Motor Vehicle Registration	20.00

*Sphygmomanometer, ophthalmoscope, otoscope, and other equipment required of each student must conform to rigid standards.

†Mandatory fee. For details, please refer to Student Health Service.

Tuition and fees are payable on a term basis and all students are required to pay full tuition for four years as a requirement for graduation. For the freshman year one-half of the annual tuition and fees is due on the Monday on which classes begin in August and the other one-half is due on the Monday preceding the beginning of classes in January. Full tuition will be paid for enrollment in 60 percent or more of the required first year courses while prorated tuition will be paid for enrollment in less than 60 percent of those courses. Sophomores, juniors, and seniors pay tuition and fees by the Monday preceding the beginning of classes in each term. Second year students are billed at the rate of one-sixth of the annual tuition and fees for each clinical rotation for which they are registered. Juniors and seniors are billed in accordance with the number of elective credits for which they

are registered. The cost per credit equals the annual tuition divided by the number of credits required per year.

The Office of the Bursar will send bills as a reminder of the exact amount payable to the University. A late fee of \$25 will be assessed for any portion of the tuition and other charges that remain unpaid after the due date and for which prior arrangements have not been made with the bursar's office. In the event of death, or involuntary withdrawal to enter the armed services, refunds will be made on a pro rata basis. In all other cases of withdrawal, students or their parents may elect to have tuition and room and board charges refunded or carried forward as a credit for later study, according to the following schedule:

1. Withdrawal before the beginning of classes: full refund.
2. Withdrawal during the first or second week of classes: 80 percent.
3. Withdrawal during the third, fourth, and fifth week of classes: 60 percent.
4. Withdrawal during the sixth: 20 percent.
5. No refunds after the sixth week.
6. Tuition or other charges paid from grants or loans will be restored to those funds, not refunded or carried forward.

No credit will be given for any term in which the tuition has not been paid, whether the work has been at Duke or elsewhere. A student is not eligible to attend classes or to make use of University facilities if in default on payment of funds owed to the University. Nonreceipt of a bill does not exonerate the student from payment or from assessment of late fees. It is not advisable for students to attempt outside work to defray their expenses during the academic year. Spouses of medical students desiring employment may secure information from the Duke University Personnel Office.

Debts. No records are released and no students are considered by the faculty as candidates for graduation until they have settled with the bursar for all indebtedness. Failure to pay all University charges on or before the times specified by the University for that semester will bar the student from class attendance until the account is settled in full.

Living Accommodations

Housing Fees. For the academic year, 1981-82 the first-year medical student residential fee for Town House Apartments was \$1,881 and \$1,654 for Duke Modular Homes. These fees are per person for the academic year on the basis of three students to an apartment. Utility charges are not included in these fees. Cost of the utilities, except water, will be shared by occupants in these apartments.

Housing fees will be adjusted upward for the 1982-83 academic year. A \$50 deposit is required with all applications.

Rates for Central Campus Apartments will be quoted to applying students upon request to the Manager of Apartments and Property. Refunds on housing fees will be made in accordance with the University's established schedules.

Dining Facilities. If a student eats meals on the Duke University Campus, the cost of food for the calendar year will vary depending on the food program that is selected. There are six meal plans and students can eat in board plan or a la carte operations. The plans range from \$366 to \$1,734. Signing up for any of the six plans alleviates the need for a student to pay a guest meal rate which is priced higher than board meal rates. Medical students may participate in any of the meal plans noted above.

Motor Vehicle Registration

Each motor vehicle operated on Duke University campuses by students enrolled in the School of Medicine must be registered at the Medical Center Traffic

Office, PRT Level, Parking Deck II, within five days after operation on the campus begins, and thereafter must display the proper registration decal.

All students must pay an annual fee of \$20 for each four-wheeled motor vehicle and \$10 for each motorbike or motor scooter registered. Bicycles are registered free of charge at the Public Safety Department, 2010 Campus Drive.

To register a vehicle, the student must present a valid state registration for each vehicle registered and a valid state operator's license.

Parking, traffic, and safety regulations will be given each student at the time of registration of the vehicle(s). Students are expected to abide by these regulations.

Financial Aid

The Duke University School of Medicine makes financial assistance available to accepted students who, due to economic circumstances, could not otherwise attend the University. The school recognizes, however, the responsibility of the individual and the family to provide funds to achieve the objective of a medical education. Thus, the school does not consider that parents have discharged the full financial obligation for the continuing education of their sons or daughters upon the latter's completion of the undergraduate degree.

Financial assistance is available in a combined form of scholarships and loans, and all awards are made on the basis of demonstrated need; however, the School of Medicine can no longer guarantee that funds will be available for every student who documents financial need.

Financial Assistance to Incoming Freshmen. When the medical school applicant receives a letter of acceptance into Duke University School of Medicine, a financial aid application is included if the student has indicated an interest in assistance on the application for admission. The economic circumstances of the applicant have no bearing on whether the applicant is accepted into the Medical School.

The student requesting financial aid is expected to work during the summer preceding entrance into medical school and to save part of these earnings to defray a portion of the first-year expenses.

The student's need must be established before an award can be made. The Office of Financial Aid, therefore, requires the Duke University application for financial aid and computation from the GAPSFAS form. Copies of federal income tax returns and a financial aid transcript are required as part of the financial aid application.

The present financial aid package, which is subject to change, is based on a \$5,000 federal (or state) insured student loan. Financial need in excess of \$5,000 comes from one-half school gift and one-half from school loan.

Financial Assistance to Upperclassmen. Annual reapplication is required of all scholarship and loan recipients. Upperclassmen seeking financial assistance for the first time should consult with the Coordinator of Financial Aid.

Endowed Funds.

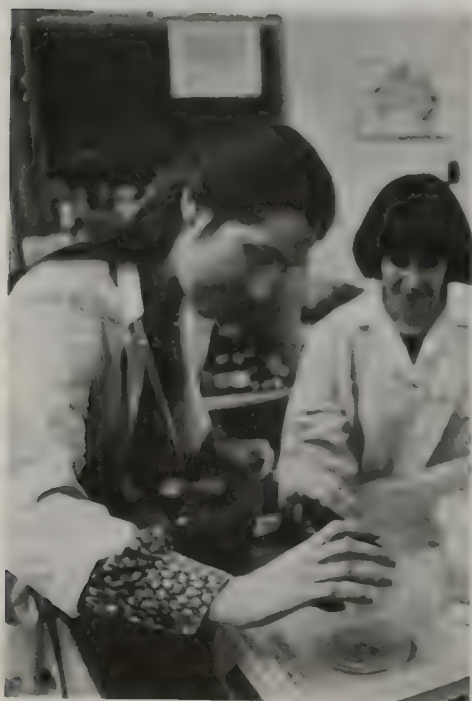
Germain Bernard Scholarship, established in 1959 by the B. C. Remedy Company.

Thomas C. Bost Scholarship, established in 1965 by a gift from Dr. Thomas C. Bost, supplemented by subsequent gifts.

James L. Clark Memorial Scholarship, established in 1965 by a gift from Mr. and Mrs. Marvin D. Clark and supplemented by gifts from other donors.

C. T. Council Scholarship, established in 1959 by the B. C. Remedy Company.

John H. Dorminy Scholarship, established in 1980 by gift from John H. Dorminy, Jr.



William F. Franck Memorial Scholarship, established in 1958 by gift from William F. Franck, Jr. '39, and supplemented by additional gifts.

Joseph W. Greer Scholarship, established in 1980 by gift from Mr. and Mrs. Joseph H. Greer.

Warren W. Hobbie Fund, established in 1980 by trustees of the Warren W. Hobbie Charitable Trust.

George Lee Hundley and Rebecca Barnhill Hundley Fund, established in 1980 by gift from George Lee and Rebecca Barnhill Hundley.

H. B. and Adelaide F. Ingle Medical Scholarship, established in 1976 by gift from Mr. and Mrs. Harry B. Ingle.

B. Everett Jordan Scholarship, established in 1974 by the late Senator B. Everett Jordan and his widow, Katherine Jordan.

Thomas D. Kinney, M.D. Memorial Scholarship, established in 1980 by gifts from his widow, Dr. Eleanor R. Kinney, and their children: Thomas R. Kinney, M.D.; Eleanor D. Kinney; J.D., Hannah C. Kinney, M.D.; and Janet S. Kinney, M.D.

Dr. John Haden Lane Memorial Scholarship, established in 1968 by gift from Edward H. Lane Foundation.

E. C. Langston Medical Scholarship, established in 1979 by bequest of Mrs. Denzil L. Mosteller.

Paul E. Leviton Medical Scholarship, established in 1981 from the estate of Paul E. Leviton.

James Cecil McGehee Memorial Medical Scholarship, established in 1975 by gift from C. G. McGehee, Jr.

Medical Alumni Scholarship, established in 1974 by Duke Medical Alumni.

Medical Class of 1950, established in 1980 by gifts from graduates of 1950.

Medical Class of 1981 and AESCULAPIAN/80 Staff, established in 1980.

Medical School Faculty Wives Scholarship, established in 1968 by a gift from the Medical School faculty wives whose source of funds is proceeds from the Nearly New Shoppe.

Physical Medicine Scholarship, established in 1963 by gift from Central Carolina Convalescent Hospital, Inc., Greensboro, North Carolina.

Radiological Science Medical Student Loan Fund, established in 1980 by the Department of Radiology.

Senior Class Gift, established by graduates of classes of 1977 and 1978.

Melvin D. and Judith N. Small Medical School Scholarship Fund was established in 1976 by gift from Dr. Melvin D. and Mrs. Judith N. Small.

Sigmund Sternberger Endowment Fund, established in 1978 by gift from the Sigmund Sternberger Foundation, Inc., Greensboro, North Carolina.

B. W. Stiles Scholarship, established in 1981 by gift from the Mary Duke Biddle Foundation.

Francis and Elizabeth Swett Scholarship, established in 1966 by gift from the late Dr. and Mrs. Swett.

Dr. Hillory M. Wilder Memorial Scholarship, established in 1962 by bequest from Celeste Wilder Blake and Kenneth M. Blake.

Sue Eggleston Woodward Memorial Scholarship, established in 1966 by gifts from parents, relatives, and friends.

Vivian Zirkle Memorial Scholarship, established in 1981 by gift from Drs. Lewis and Sara Zirkle.

Other Medical School Scholarships. Mary Duke Biddle Scholarships, Duke Hospital Medical Auxiliary Scholarships, Dr. E. Eugene Owen Scholarship, Duke University School of Medicine Scholarships, State of North Carolina (tuition remission up to \$2,000), and Slane Family Scholarship.

Federal Scholarships. Armed Forces (Army, Navy, and Air Force) Scholarship programs are available for accepted or enrolled students. The recipient receives full tuition, fees, and living allowance in return for a commitment of service as a physician for each year of funding. The special application is made directly to the program in which the student is interested.

First-Year Scholarships for Students of Exceptional Financial Need. This federally funded program pays tuition, fees, and living expense. The student must have zero family resources as measured by a nationally recognized needs analysis. Recipients are selected by the school using federal criteria. For 1981-82 there were four scholarships.

North Carolina Board of Governors Medical Scholarships (BGMS). Each year seventeen Board of Governors Medical Scholars are chosen from among forty qualified first year medical school candidates who have been accepted for admission at one of the four medical schools located in North Carolina. BGMS recipients are selected by a statewide selection committee from candidates of all races who are financially disadvantaged state residents and who have expressed a medical interest and emphasis in practicing medicine in the State of North Carolina. BGMS awards provide a stipend of \$4,000 a year plus tuition and mandatory fees. They are renewable under certain conditions. Information about the BGMS program is available at the financial aid office.

Loans

University loans are available under the specific restrictions of the loan funds and are awarded on the basis of financial need. Some of them are: W. K. Kellogg Foundation Loan Fund, Seaborn L. Hardman Loan Fund, Medical Freshman Tuition Loan, Scott Loan Fund, Charles W. Banner Loan Fund, Robert Wood Johnson Foundation Student Aid Program, National Direct Student Loans, and U.S. Health Professions loans.

The Francis and Elizabeth Swett Loan Fund is an emergency loan available in small amounts to any medical student on a no-interest basis for a short period of time.

Federally Insured Student Loans are available to full-time financially needy students at Duke University (an approved lender) if the student is unable to locate a home-town lender.

Loans from Outside the University

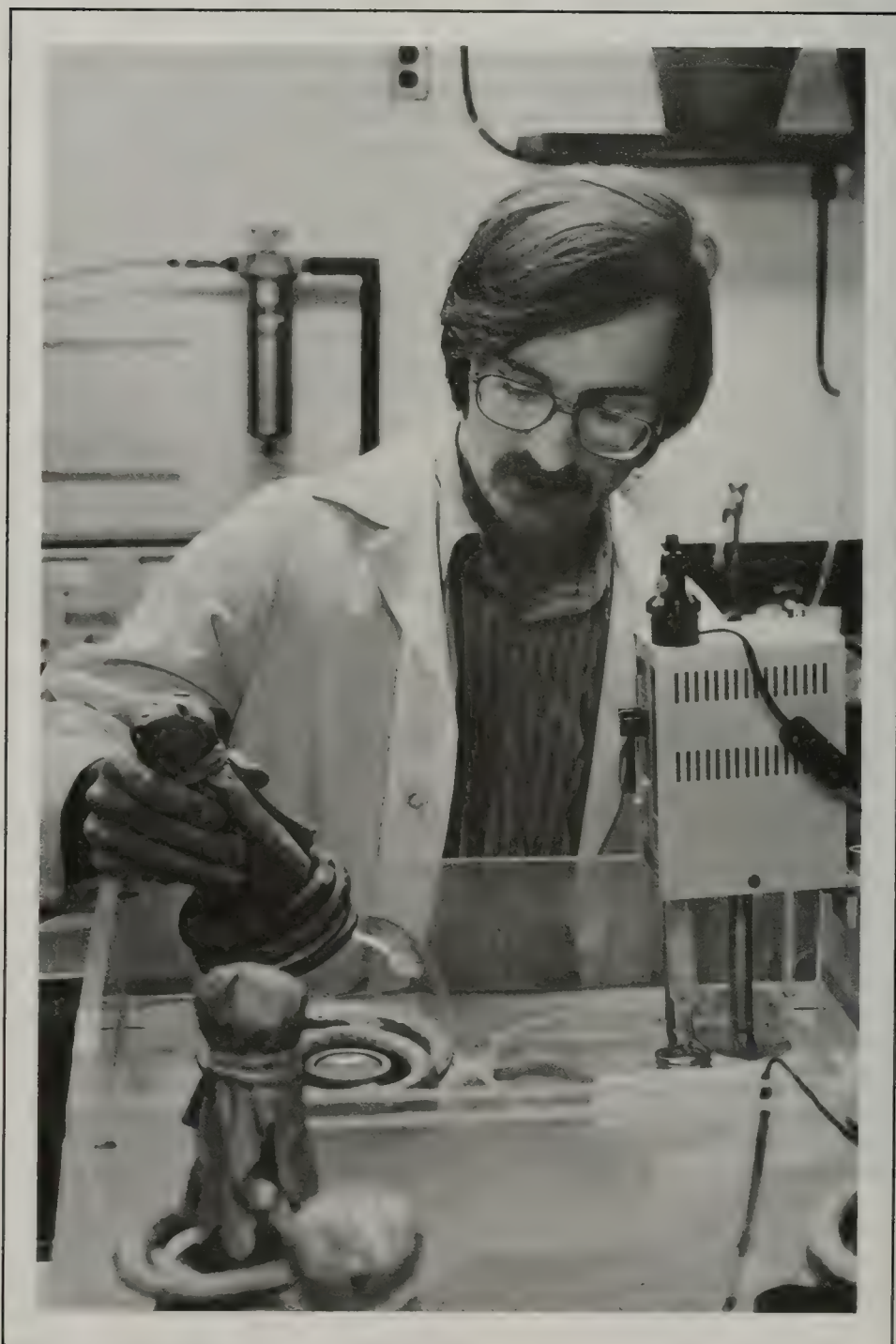
North Carolina Educational Loan Program. The North Carolina Department of Human Resources administers the Educational Loan Program for domiciliaries of North Carolina pursuing training in certain health professions who agree to practice their specialties as qualified professionals in underserved areas or programs of the state. Factors considered in awarding loans: ability to complete a training program, motivation to fulfill program goals, financial resources available to the applicant from other sources, and ability to meet domiciliary requirements. For medical students the loan is \$6,000 per year; loans are renewable depending on length of curriculum; and recipients agree to cancel their obligations by practice in shortage areas or programs of North Carolina. A personal interview is required only with the initial application and must be scheduled prior to the fall or summer for which funds are needed. For further information contact the Educational Loan Program, P.O. Box 12200, Raleigh, North Carolina 27605, (919) 733-2164.

Health Education Assistance Loans. These loans are available to accepted or enrolled students. There is an annual maximum, and interest, higher than need-based loans, is payable annually until repayment of principal begins. A special application is required.

Federally or State Insured (Guaranteed) Student Loans. FISL/GSL are available from many home-town banks. The annual maximum for medical students is \$5,000 with an aggregate maximum of \$25,000. Parental financial information is required and the bank may have an annual maximum less than the above figure. The 9 percent interest is federally subsidized until repayment begins six months after graduation. Previous borrowers on the insured loan program will pay 7 percent interest and have a nine-to twelve-month grace period.

Additional information, including a financial aid brochure and approved student budgets may be obtained by writing Coordinator of Financial Aid, Duke University Medical Center, Durham, North Carolina 27710.

Courses of Instruction



An asterisk placed after the course number indicates that the course is also offered in the Graduate School.

Anatomy

James B. Duke Professor: J. David Robertson, M.D. (Harvard, 1945), Ph.D. (Massachusetts Inst. of Tech., 1952), *Chairman*.

Professors: Matthew Cartmill, Ph.D. (Chicago, 1970); Sheila J. Counce, Ph.D. (Edinburgh, 1954); William L. Hylander, D.D.S. (Illinois, 1963), Ph.D. (Chicago, 1972); R. J. Reynolds Industries Professor in Medical Education Montrose J. Moses, Ph.D. (Columbia, 1949); Robert B. Nicklas, Ph.D. (Columbia, 1958); Elwyn Simons, Ph.D. (Princeton, 1956; Oxford, 1959).

Associate Professors: Joseph M. Corless, M.D., Ph.D. (Duke, 1972); Harold P. Erickson, Ph.D. (Johns Hopkins, 1968); William C. Hall, Ph.D. (Duke, 1967); Richard F. Kay, Ph.D. (Yale, 1973); William Longley, Ph.D. (London, 1963); Michael K. Reedy, M.D. (Washington, 1962).

Assistant Professors: Frank H. Bassett III, M.D. (Louisville, 1957); Nell B. Cant, Ph.D. (Michigan, 1973); M. Joseph Costello, Ph.D. (Duke, 1971); Eric L. Effman, M.D. (Indiana, 1967); Emma R. Jakoi, Ph.D. (Duke, 1973); Chia-Sheng Lin, Ph.D. (Vanderbilt, 1976); Ross D. MacPhee, Ph.D. (Alberta, 1977); Richard B. Marchase, Ph.D. (Johns Hopkins, 1976); Thomas J. McIntosh, Ph.D. (Carnegie-Mellon, 1973); Frederick H. Schachat, Ph.D. (Stanford, 1974); Kathleen K. Smith, Ph.D. (Harvard, 1980); E. Lee Tyrey, Ph.D. (Illinois, 1969).

Assistant Medical Research Professors: Hie Ping Beall, Ph.D. (Tulane, 1967); Kenneth A. Taylor, Ph.D. (Berkeley, 1975).

Associates: Arthur C. Chandler, Jr., M.D. (Duke, 1959); Jane S. Richardson, M.A. (Harvard, 1966).

Lecturer: Irving T. Diamond, Ph.D. (Chicago, 1953).

Senior Research Associate: Juan A. Vergara, M.D.

Research Associates: Friderun Ankel-Simons, Ph.D.; Nadia Chesla, Ph.D.; Leonidas S. Cordova, M.S.; Janet A. Hall, M.S.; Charles M. Kelley, Ph.D.; Patricia A. Poorman, A.M.; Mary C. Reedy, M.S.; William A. Voter, A.M.

Required Courses

During Term 1, first-year students are required to take Gross Anatomy (ANA-200), Microanatomy (ANA-201), and Neuroanatomy (ANA-202). All instruction is designed to be informal and individualized. The general principles and functional viewpoint of living anatomy are emphasized and, whenever possible, fresh tissues and living cells are used.

ANA-200. Gross Anatomy. Students dissect the entire human body except the brain. Formal classroom lectures relate structures of the human body to their developmental and phylogenetic antecedents and the clinical significance of anatomical facts. Informal lectures are presented to small groups. Filmed lectures and prosections are available to students for laboratory and library study.

ANA-201. Microanatomy. Students are introduced to the histology, cytology, and cell biology of the major tissues of the human body. This will include an

introduction to light and electron microscopy. X-ray diffraction and polarization optics as applied to structural organization in various tissues and organs. Biochemical, biophysical, and genetic cytology, as well as muscle and membrane structure, will be presented in detail.

ANA-202. Neuroanatomy. Neuroanatomy and neurophysiology are taught concurrently to correlate these fields. Patients will be presented by faculty members in clinical neurology and neurosurgery. The major portion of the course is organized by systems, e.g., sensory, visual, auditory, olfactory, and motor including cerebellar, autonomic, hypothalamic, and limbic mechanisms.

Electives

ANA-214(B). * Anatomy of the Head and Neck. This course is designed to be a review of the head and neck, emphasizing its phylogenetic and ontogenetic development along with clinically important features of the anatomy of this region. Term: Spring 1982 and Fall 1983. Weight: 2. *Staff*

ANA-217(B). * Structure and Function of Visual Photoreceptors. A detailed study of available structural, biochemical, spectroscopic, and physiological data from retinal photoreceptors. Emphasis on molecular structure of vertebrate photoreceptor membranes, effects of bleaching on rhodopsin molecules, and initiation of neural information after photon absorption. Format to combine lectures, seminars, and demonstrations. Offered alternate years beginning with 1981. Terms: Fall 1 and 2. Weight: 3. *Corless*

ANA-221(B). * Anatomy of the Trunk. Emphasis will be on the anatomy of the thoracic, abdominal, and pelvic organs, including relationships, blood supply and innervations, and, where practical, developmental and microscopic anatomy. The dissections will be supplemented with audiovisual presentations and discussions and with such prosections as are available. Term: Spring 1. Weight: 2. *Staff*

ANA-224(B). Tutorial in Gross Anatomy. A detailed review of selected regions of the human body in the context of the core gross anatomy sequence. Student will plan, with staff, prosections, special presentations, etc. Students will elect to study one or more selected region in consultation with the staff. Terms: Fall 1 and/or 2. Weight: 1-5. *Staff*

ANA-231(B). Anatomy of Back and Extremities. Complete dissection of back and extremities, including pectoral and pelvic girdles. Visual aids will be used extensively. Course planned for orthopaedics, general practice, or neurosurgery. Terms: Spring 1 or Summer 1. Weight: 3. *Bassett and staff*

ANA-259(B). * Molecular Biology I. Protein and Membrane Structure/Function. Detailed concepts of the structure and function of proteins as enzymes and as structural elements of cellular substructures, including: protein primary structure and its determination, patterns of protein folding, mechanisms of enzyme catalysis and regulation, function and formation of multimeric protein assemblies, proteins and other constituents of biological membranes. Terms: Fall 1 and 2. Weight: 3. *Vanaman, Bell, Erickson, Rajagopalan, and J. Richardson.*

ANA-269(B). * Advanced Cell Biology. Structural and functional organization of cells and their components with emphasis on current research problems and prospects. Terms: 1 and 2. Weight: 3. *Endow and staff*

ANA-286(B). * The Light Microscope, the Electron Microscope, and X-ray Diffraction in Biology. Lectures and laboratories on methods of ultrastructure research. Fundamentals of optics; the light microscope, phase, polarizing, and interference microscopy. Basics of electron microscopy, staining, sectioning, and

replication techniques. Optical and computer image processing. Introduction to X-ray diffraction theory and apparatus in structure determination. Terms: Offered alternate years beginning 1981. Weight: 4. *Longley*

ANA-340(B).* **Tutorial in Advanced Anatomy.** Selected topics will be chosen for intensive reading and discussion. Topics may be chosen related to basic problems of cytology, growth and development, biophysics, endocrinological control, neuroanatomy, physiological differentiation and evolutionary origins of functional microsystems. Every term. Weight: 1-3 per term. *Anatomy faculty*

ANA-354(B).* **Research Techniques in Anatomy.** A preceptorial course in various research methods in anatomy including electronmicroscopy. An interested student might engage in research in physical anthropology, molecular and cell biology, developmental biology, fetal physiology, or stereotactic approaches to neuroendocrinology and neuroanatomy. Recent advances in methodology are stressed. Approval of the student by the faculty is required. Every term. Weight: 4-8. *Anatomy faculty*

ANA-411(B).* **Molecular and Cellular Bases of Development and Differentiation.** Emphasis is placed on the biochemistry of the cell surface as the basis of cell recognition, control of cell cycle, and overall tissue organization. An analysis of protein nucleic acid interactions in chromosome structure and function are considered in light of newer concepts of transcriptional and translational control. Studies also include nuclear cytoplasmic interactions as well as hormone induction of differentiation and development. The course is designed to study cellular differentiation and has been organized on a multidisciplinary level. The course is part of the lecture series of the Molecular and Cellular Basis of Differentiation Study Program. Terms: Fall 1 and 2. Weight: 3 and 4. *McCarty, Counce, Kaufman, and Padilla*

ANA-414(B). **The Human Embryo.** The first eight weeks of development are considered in detail, including fertilization, implantation, formation, and function of embryonic membranes and placenta, and establishment of major organ systems. Emphasis is placed on distinctive features of human embryogenesis, and on causes, identification, and treatment of congenital defects. Term: Spring 1. Weight: 2. *Counce and Effman*

ANA-418(B).* **Reproductive Biology.** An indepth study of male and female reproductive processes including hypothalamic, pituitary, and gonadal control mechanisms as well as the physiology of pregnancy and parturition. Lectures by guest clinical faculty will emphasize the interface between basic science and clinical aspects. The lecture material in each section of the course is followed by seminar presentations which will contribute to ANA/PHS-424, a corequisite for the course. Also listed as PHS-418(B).* Terms: Spring 1 and 2. Weight: 2. *Anderson, Schomberg, and Tyrey*

ANA-424(B).* **Reproductive Biology.** Selected topics in reproductive biology will be chosen for indepth reading and analysis in the seminar format. The seminar is to be taken as a corequisite with ANA/PHS-418(B). Also listed as PHS-424(B). Terms: Spring 1 and 2. Weight: 1. *Anderson, Schomberg, and Tyrey*

Anesthesiology

Professor: Merel H. Harmel, M.D. (Johns Hopkins, 1943) *Chairman.*

Professors: Peter B. Bennett, Ph.D. (Southampton, England, 1964); David A. Davis, M.D. (Vanderbilt, 1941); Sara J. Dent, M.D. (Med. Coll. of South Carolina, 1945); Kenneth D. Hall, M.D. (Duke, 1953); Joannes H. Karis, M.D. (State Univ. of Utrecht, Holland, 1952); William J. Murray, Ph.D. (Wisconsin, 1955); M.D. (North Carolina at Chapel Hill, 1962); Lloyd F. Redick, M.D. (Ohio State, 1958); Bruno J. Urban, M.D. (Albertus Magnus, Germany, 1960); Vartan Vartanian, M.D. (Cluj Univ. Med. School, Rumania, 1951); Stanley W. Weitzner, M.D. (New York Coll. of Med., 1953).

Associate Professors: Edmond C. Bloch, M.B., Ch.B. (Univ. of Cape Town, South Africa, 1946); Enrico Camporesi, M.D. (Univ. of Milan, Italy, 1970); Lennart Fragraeus, M.D., Ph.D. (Karolinska Inst., Stockholm, 1965, 1974); Elisabeth J. Fox, M.B., B.S. (London Univ., 1955); John N. Miller, M.B., B.S. (Univ. of Sydney, 1963); Ingeborg H. Talton, M.D. (Frankfurt/Main, 1951), Ph.D. (Geissen, 1952).

Associate Clinical Professors: M. Bourgeois-Gavardin, M.D. (Univ. of Paris, 1954; Duke, 1955); Charles F. Lanning, M.D. (Kansas, 1969).

Assistant Professors: Carlos U. Arancibia, M.D. (Univ. of Chile, 1969); Frank E. Block, Jr., M.D. (Virginia, 1976); Elaine M. Bukowski, M.D. (SUNY at Buffalo, 1974); Charles M. Christian II, Ph.D., M.D. (Louisiana, 1971, 1975); Kenneth R. Haslam, M.D. (Cornell, 1960); Radaslav Kosanin, M.D. (Univ. of Belgrad, Yugoslavia, 1965); Philip D. Lumb, M.B., B.S. (Univ. of London, 1974); Mohammad Maroof, M.D. (Liaquat Med. Coll., Pakistan, 1964); R. William McIntyre, M.D. (Univ. of British Columbia, 1970); Benzion Schkolne, M.B., Ch.B. (Univ. of Cape Town, South Africa, 1972).

Assistant Medical Research Professors: Larry W. Burton, Ph.D. (Duke, 1977); David Harris, Ph.D. (Univ. of Leeds, U.K., 1974); Charles E. Johnson, Ph.D. (Duke, 1975); Fritz F. Klein, Ph.D. (Duke, 1973); James L. Parmentier, Ph.D. (California at Santa Barbara, 1972); Marc D. Rafal, Ph.D. (Duke, 1980); Brij B. Shrivastav, Ph.D. (Univ. of Western Ontario, 1968); Sidney A. Simon, Ph.D. (Northwestern, 1973); Richard Vann, Ph.D. (Duke, 1976).

Assistant Clinical Professors: J. Howard J. Brown, M.D. (Boston, 1967); Luther C. Hollandsworth, M.D. (Bowman Gray, 1951); John A. Jarrell, Jr., M.D. (Johns Hopkins, 1949); Stanley J. Rosenberg, M.D. (Michigan, 1968).

Associates: Ziaur Rahman, M.D. (Prince of Wales Med. Coll., India); Paul V. Stankus, M.D. (North Carolina at Chapel Hill, 1976).

Medical Research Associate: Arthur Dick, M.D. (Univ. of Western Ontario, 1977).

Research Associate: Michael Feezor, Ph.D. (North Carolina at Chapel Hill, 1969).

Electives

ANE-250(C). Clinical Acute Respiratory Physiology. Work in Anesthesiology Blood Gas Laboratory learning theory and practice of oxygen electrode, carbon dioxide electrode and pH meter and ancillary techniques, and in Recovery Room and Acute Care Unit. Study of ventilator problems. Terms: Fall 1 and 2, and Summer Term 1. Weight: *Hall and staff*

ANE-252(C). Clinical Anesthesiology II. Introduction to theory and practice of cardiopulmonary resuscitation, diagnostic and therapeutic nerve blocks, and clinical surgical anesthesia. Students will review physiology and pharmacology of anesthesia and perform general and regional anesthesia and will assist in postanesthetic respiratory care. Every term except first four weeks Spring 1 and Summer 2. Weight 2-8. *Harmel and staff*

ANE-253(C). Anesthesiology Research. In collaboration with the faculty, the student will work on a research project related to the physiology and pharmacology of anesthetics in a laboratory or clinical setting. Every term. Weight: 8. *Bennett and staff*

Biochemistry

James B. Duke Professor Robert L. Hill, Ph.D. (Kansas, 1954), *Chairman*.

Professors: Professor Emeritus Mary L. C. Bernheim, Ph.D., (Cambridge, England, 1928); James B. Duke Professor Irwin Fridovich, Ph.D. (Duke, 1955); Samson R. Gross, Ph.D. (Columbia, 1953); Walter R. Guild, Ph.D. (Yale, 1951); James B. Duke Professor Philip Handler,* Ph.D. (Illinois, 1939); Jerome S. Harris, M.D. (Harvard, 1933); Henry Kamin, Ph.D. (Duke, 1948); Norman Kirshner, Ph.D. (Pennsylvania State, 1952); Kenneth S. McCarty, Ph.D. (Columbia, 1957); K. V. Rajagopalan, Ph.D. (Univ. of Madras, 1957); Robert Webster, Ph.D. (Duke, 1965).

Associate Professors: Robert M. Bell, Ph.D. (California, 1970); Ronald C. Greene, Ph.D. (California Inst. of Tech., 1954); Bernard Kaufman, Ph.D. (Indiana, 1961); William S. Lynn, Jr., M.D. (Columbia, 1946); Paul Modrich, Ph.D. (Stanford, 1973); David C. Richardson, Ph.D. (Massachusetts Inst. of Tech., 1967); Harvey J. Sage, Ph.D. (Yale, 1958); Lewis Siegel, Ph.D. (Johns Hopkins, 1965); J. Bolling Sullivan, Ph.D. (Texas, 1966).

Assistant Professors: Arno L. Greenleaf, Ph.D. (Harvard, 1974); Robert L. Habig, Ph.D. (Purdue, 1966); Michael Hirschfield, M.D. (Pennsylvania, 1967); Edward Holmes, M.D. (Pennsylvania, 1967);

*Died, 29 December 1981.

Tao-shih Hsieh, Ph.D. (California, 1976); Nicholas Kredich, M.D. (Michigan, 1962); Robert Lefkowitz, M.D. (Columbia, 1966); Patrick A. McKee, M.D. (Oklahoma, 1962); Salvatore V. Pizzo, M.D., Ph.D. (Duke, 1973); Deborah A. Steege, Ph.D. (Yale, 1974); Allen David Roses, M.D. (Pennsylvania, 1967); Robert W. Wheat, Ph.D. (Washington, 1955).

Assistant Medical Research Professors: Celia Bonaventura, Ph.D. (Texas, 1968); Joseph Bonaventura, Ph.D. (Texas, 1968); Marc G. Caron, Ph.D. (Florida, 1973).

Adjunct Assistant Professor: Per-Otto Hagen, F.H.W.C. (Watt Univ. Scotland, 1961).

Associates: John Bittikofer, Ph.D. (Purdue, 1971); Yasuhiko Nozaki, Ph.D. (Univ. of Tokyo, 1945).

Research Associates: Diane A. Albergo, Ph.D.; Michael J. Barber, Ph.D.; Thomas A. Beyer, Ph.D.; A Lien Lu Chang, Ph.D.; Margaret A. Cudd, Ph.D.; Allen Echardt, Ph.D.; Susan Gidwitz, Ph.D.; Robert V. Hageman, Ph.D.; Jean Johnson, Ph.D.; Yasuhisa Kono, Ph.D.; Carson R. Loomis, Ph.D.; Robert J. Mullin, Ph.D.; Frederick Piller, Ph.D.; Haim D. Rabinowitch, Ph.D.; Lillie L. Searles, Ph.D.; Brian J. Terry, Ph.D.; Robert C. Tuckey, Ph.D.; Keith Westcott, Ph.D.

Required Courses

BCH-200—the core course given to all freshman medical students during a period of eighteen weeks in the first term—emphasizes the relationship between structure and function of the major classes of macromolecules in living systems including proteins, carbohydrates, lipids, and nucleic acids. The metabolic interrelationships and control mechanisms are discussed as well as the biochemical basis of human diseases.

BCH-201—the required course in genetics for all first-year students—is given during fourteen weeks of the first term. The course emphasizes fundamental properties of the gene in relation to mutation, recombination, selection, replication, transcription, and translation, as well as the organization and structure of chromosomes. Human and medical genetics are emphasized to provide basic concepts necessary for understanding the origin and consequences of genetic variability. Approximately two-thirds of the lectures illustrate basic genetic problems.

With the staff's approval, some students with extensive formal training in genetics may be given the option of presenting a paper instead of taking examinations.

Electives

BCH-215(B). Molecular Genetics I: Genetic Mechanisms. A study of genetic mechanisms in molecular terms with emphasis on gene function, segregation and regulation in procaryotes and eucaryotes. The systems covered will include bacterial viruses, bacteria, plasmids, cellular organelles, and selected lower and higher eucaryotes. Course material will be drawn from the original literature and will be integrated as much as possible with Biochemistry 268. Terms: Fall 1 and 2. Weight: 3. *Gross and staff*

BCH-219(B).^{*} Molecular and Cellular Bases of Development and Differentiation. Emphasis is placed on the biochemistry of the cell surface as the basis of cell recognition, control of cell cycle, and overall tissue organization. An analysis of protein nucleic acid interactions in chromosome structure and function are considered in light of newer concepts of transcriptional and translational control. Studies also include nuclear cytoplasmic interactions as well as hormone induction of differentiation and development. The course is designed to study the phenomena of development and differentiation and has been organized on a multidisciplinary level. The course is part of the lecture series of the Molecular and Cellular Basis of Differentiation Study Program, MCD-301(B). Terms: Fall 1 and 2. Weight: 3-4. *McCarthy, Counce, Kaufman, and Padilla*

BCH-234(B). Metabolic-Genetic Disease Seminar. Diseases of metabolism studied in detail with an emphasis on human genetics and inborn errors of metabolism. Format includes staff lectures, student seminars, patient presentations, textbook and literature reading. The group will be small enough to permit

maximal personal interaction, particularly between students and faculty. Term: Spring 1. Weight: 3. *Kredich, Gross, Hill, and Holmes*

BCH-259(B). * Molecular Biology I. Protein and Membrane Structure/Function. Detailed concepts of the structure and function of proteins as enzymes and as structural elements of cellular substructures, including: protein primary structure and its determination, patterns of protein folding, mechanisms of enzyme catalysis and regulation, function and formation of multimeric protein assemblies, proteins and other constituents of biological membranes. Terms: Fall 1 and 2. Weight: 3. *Vanaman, Bell, Erickson, Rajagopalan, and J. Richardson*

BCH-268(B). * Molecular Biology II. Nucleic Acids. Consideration of structure and metabolism of nucleic acids in the context of their biological function in information transfer. Emphasis will be on the current research literature. Terms: Spring 1 and 2. Weight: 3. *Modrich, Burns, Bastia, and Steege*

BCH-276(B). * Comparative and Evolutionary Biochemistry. Lectures and discussion of the origin of life, evolution of the genetic code, mutation and protein polymorphism, natural selection and protein structure, and comparison of homologous proteins and nucleic acids. Laboratory work involves the purification and characterization of homologous proteins from fish and invertebrates. Techniques used include salt fractionation, electrophoresis, ion-exchange and molecular exclusion chromatography, fingerprinting, molecular weight determination, amino acid composition, and other related approaches. Terms: June-July; Summer 2. Weight: 6 per 5 weeks. *Sullivan*

BCH-288(B). * The Carbohydrates and Lipids of Biological Systems. The subjects will be considered in the following two general categories: (1) The relationship between structure and function; particularly, (a) cell surface carbohydrates as antigenic determinants and their relationship to viral and carcinogen transformation, (b) connective tissue mucopolysaccharides, (c) structural features of lipids and phase transitions. (2) Biosynthesis and catabolism. Terms: Spring 1 and 2. Weight: 2. *Kaufman*

BCH-291(B). * Physical Biochemistry. Principles of thermodynamics, hydrodynamics, spectroscopy, and X-ray diffraction and scattering are applied to biological systems. Biological molecules and macromolecules in both soluble and crystalline states are discussed. Terms: Fall 1 and 2. Weight: 3. *Richardson, Hsieh, and Sage*

BCH-292(B). * Proteins and Enzymes. Topics in protein chemistry including purification techniques, determination of primary structure, group specific modification and structure-function correlations. Mechanisms of action of enzymes, including the chemistry of nonprotein cofactors. Terms: Fall 1 and 2. Weight: 3. *Fridovich, Rajagopalan, Richardson, and Hill*

BCH-297(B). * Intermediary Metabolism. Lectures and student presentations on selected topics in the areas of metabolic regulation, bioenergetics, and other subjects of current research interest in metabolism. Terms: Spring 1 and 2. Weight: 3. *Siegel, Bell, Hill, Fridovich, and Rajagopalan*

BCH-299(B). * Nutrition. This course will examine the experimental basis for the identification and quantitation of requirements for calories, macronutrients, and micronutrients (vitamins and minerals). It will deal with the biochemistry of nutrition, with the assessment of nutriture, and with the biological effects of deficiency or excess of nutrients. This course will seek to define optimal nutriture and will search for the factual bases (if they exist) for commonly held beliefs on the nutrition of individuals and populations. The course will consist of informal lectures and, if possible, student seminars. Term: Fall 2. Weight: 2. *Kamin*

BCH-357(B). * Research in Biochemistry. In a limited number of cases, a student will be permitted to participate in the research program of a faculty member. Acceptance is by individual arrangement with the proposed faculty preceptor. Terms: Fall 1 and 2. Weight: 1-8 per term. *Biochemistry faculty*

BCH-358(B). * Research in Biochemistry. In a limited number of cases, a student will be permitted to participate in the research program of a faculty member. Acceptance is by individual arrangement with the proposed faculty preceptor. Terms: Spring 1 and 2 or Summer Term 2. Weight: 1-8 per term. *Biochemistry faculty*

BCH-360(B). Clinical Chemistry Laboratory. Medical students may participate in the program of the Clinical Chemistry Laboratory on a tutorial basis. The course is tailored to the student's particular training needs. Students must receive the permission of the instructor. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 4. *Bittikofer*

Community and Family Medicine

Professor: E. Harvey Estes, Jr., M.D. (Emory, 1947); *Chairman*.

Associate Professors: Stephen H. Gehlbach, M.D. (Western Reserve, 1968), M.P.H. (North Carolina at Chapel Hill, 1974), *Research Coordinator*; George R. Parkerson, M.D. (Duke, 1953), M.P.H. (North Carolina at Chapel Hill, 1977), *Education Coordinator*.

Assistant Professor: John P. Hansen, M.D. (Wisconsin, 1969), M.P.H. (North Carolina at Chapel Hill, 1981), *Clinical Services Director*.

DIVISION OF BIOMETRY

Associate Professor: William E. Wilkinson, Ph.D. (North Carolina at Chapel Hill, 1968); *Chief*.

Professors: Thomas E. Frothingham, M.D. (Harvard, 1951); Max A. Woodbury, Ph.D. (Michigan, 1948).

Associate Professors: William E. Hammond, Ph.D. (Duke, 1967); Kerry L. Lee, Ph.D. (North Carolina at Chapel Hill, 1974); Robert A. Rosati, M.D. (Duke, 1967).

Assistant Professors: Daniel G. Blazer II, M.D. (Tennessee, 1969); Deborah V. Dawson, Ph.D. (North Carolina at Chapel Hill, 1981); Elizabeth R. Delong, Ph.D. (North Carolina at Chapel Hill, 1979); Elizabeth S. Delzell, D.Sc. (Harvard, 1980), M.S.P.H. (North Carolina at Chapel Hill, 1977); Frank E. Harrell, Jr., Ph.D. (North Carolina at Chapel Hill, 1979); Carol C. Hogue, Ph.D. (North Carolina at Chapel Hill, 1974); Frederick R. Jelovsek, M.D. (Michigan, 1969); Lawrence H. Muhlbaier, Ph.D. (North Carolina at Chapel Hill, 1981); Ramon Velez, M.D. (New York Univ., 1970).

Assistant Medical Research Professor: Kenneth G. Manton, Ph.D. (Duke, 1974).

Research Associates: E. Edgar Cockrell III, M.S.P.H. (North Carolina at Chapel Hill, 1975); Michael Helms, B.S. (North Carolina at Chapel Hill, 1971).

DIVISION OF COMMUNITY AND OCCUPATIONAL MEDICINE

Assistant Professor: David C. Deubner, M.D. (Rochester, 1971), M.P.H. (North Carolina at Chapel Hill, 1973); *Chief*.

Professors: David M. Eddy, Ph.D. (Stanford, 1978); Leon Goldberg, M.B., B.Chir. (Univ. Coll. Hospital Med. School, London, 1951); Clark C. Havighurst, J.D. (Northwestern, 1958); Siegfried H. Heyden, M.D. (Univ. of Berlin, Germany, 1951); Eva J. Salber, M.D. (Univ. of Cape Town, South Africa, 1955); Harmon L. Smith, Ph.D. (Duke, 1962).

Associate Professors: John K. Crellin, Ph.D. (Univ. of London, 1969), L.R.C.P., M.R.C.S. (Univ. of London, 1974); James F. Gifford, Jr., Ph.D. (Duke, 1969); Joseph Lipscomb, Jr., Ph.D. (North Carolina at Chapel Hill, 1975); Robert J. Sullivan, Jr., M.D. (Cornell, 1966), M.P.H. (North Carolina at Chapel Hill, 1973).

Assistant Professors: Deborah Bender, Ph.D., (American, 1980), M.P.H. (North Carolina at Chapel Hill, 1981); Allen R. Dyer, M.D. (Duke, 1972); John B. Nowlin, M.D. (Duke, 1959); Ruby L. Wilson, Ed.D. (Duke, 1968).

Associate: Shirley E. Callahan, M.P.H. (North Carolina at Chapel Hill, 1958).

Adjunct Assistant Professor: Diana E. McGrath, Ph.D. (Pennsylvania, 1974).

Clinical Assistant Professors: Sigrid J. Nelius, M.D. (Ludwig Maximilian, Germany, 1949); Woodhall Stopford, M.D. (Harvard, 1969).

Clinical Associates: John W. Cromer, Jr., M.D. (Nebraska, 1972); James W. Osberg III, Ph.D. (North Carolina at Chapel Hill, 1980).

Associate: Beverly K. Rosen, M.S.W. (North Carolina at Chapel Hill, 1974).
Research Associates: James M. Schmidt, B.H.S. (Duke, 1974); William T. Vaughan, B.S. (North Carolina at Chapel Hill, 1972).

DIVISION OF FAMILY MEDICINE

Associate Professor: Samuel W. Warburton, Jr., M.D. (Pennsylvania, 1969); *Chief*.
Associate Professors: Stephen H. Gehlbach, M.D. (Western Reserve, 1968), M.P.H. (North Carolina at Chapel Hill, 1974); George R. Parkerson, M.D. (Duke, 1953), M.P.H. (North Carolina at Chapel Hill, 1977).
Assistant Professors: Collins E. Baber, M.D. (Duke, 1973); James A. Bobula, Ph.D. (Ohio State, 1972); John P. Hansen, M.D. (Wisconsin, 1969), M.P.H. (North Carolina at Chapel Hill, 1981); James T. Moore, M.D. (Columbia, 1971); Katherine A. Munning, Ph.D. (Iowa, 1979); Gregg A. Warshaw, M.D. (Michigan, 1976).
Associate: Catherine M. Severns, R.N.P. (Yale, 1971).
Clinical Assistant Professors: Belinda R. Novik, Ph.D. (Michigan, 1972); R. Derek Prentice, M.B., Ch.B. (Edinburgh Univ., Scotland, 1970); Kathryn A. Sweeney, M.D. (Northwestern, 1975).
Clinical Associates: Melvin Berlin, M.D. (Duke, 1953); Don W. Bradley, M.D. (Med. Coll. of Virginia, 1976); Susan E. Brown, M.D. (Georgetown, 1976); Joyce A. Copeland, M.D. (North Carolina at Chapel Hill, 1975); Stephen W. Friedman, M.D. (Tulane, 1971); Richard C. Joslin, M.D. (Virginia, 1974); Robert L. Rhyne, Jr., M.D. (New Mexico, 1977).
Clinical Instructors: Joseph W. Kertesz, Jr., M.A. (Michigan, 1973); Judith M. Roberts, M.S.N. (Vanderbilt, 1973).

DIVISION OF PHYSICIAN'S ASSISTANT TRAINING

Assistant Professor: Michael A. Hamilton, M.D. (Rochester, 1964); *Chief*.
Associate Professor: Arthur C. Christakos, M.D. (South Carolina, 1955).
Assistant Professor: Malcolm Henderson Rourke, Jr., M.D. (Pennsylvania, 1963).
Instructors: Leaf R. Diamant, M.Ed. (North Carolina at Chapel Hill, 1973); Joyce Nichols, R.P.A. (Duke, 1970).
Adjunct Assistant Professor: Reginald D. Carter, Ph.D. (Bowman Gray, 1970).
Clinical Associates: Daniel Domizio, B.H.S. (Duke, 1975); Susan M. Edgman, B.H.S. (Duke, 1977); Carl M. Toney, R.P.A. (Duke, 1979).
Research Associate: Valerie Staples, B.A. (Connecticut Coll., 1970).

Adjunct Faculty

Professor: Mario C. Battigelli, M.D. (Univ. of Florence, Italy, 1951), M.P.H. (Pittsburgh, 1957), Chapel Hill, N.C.
Adjunct Assistant Professors: James D. Bernstein, M.H.A. (Michigan, 1968); Thomas R. Howerston, A.B. (Duke, 1946), Durham, N.C.; Ralph E. Jennings, B.S. (East Tennessee, 1955), Durham, N.C.; Josephine E. Newell, M.D. (Maryland, 1949), Raleigh, N.C.; Lawrence E. Myers, Ph.D. (California at Berkeley, 1972), Research Triangle Park, N.C.; Richard J. Levine, M.D. (St. Louis, 1971); Research Triangle Park, N.C.
Adjunct Associates: Lynn C. Hartwig, M.A. (North Carolina at Chapel Hill, 1972), Hattiesburg, Miss.; Steven J. Hornberger, M.Div. (Harvard, 1970), Peru.

Clinical Faculty

Clinical Associate Professors: Charles Ellenbogen, M.D. (Chicago-Pritzker, 1964), Fayetteville, N.C.; Barbara S. Hulka, M.D. (Columbia, 1959), M.P.H. (Columbia, 1961), Chapel Hill, N.C.; William J. Kane, M.D. (Temple, 1969), Mount Holly, N.J.; F. M. Simmons Patterson, M.D. (Pennsylvania, 1939), Greenville, N.C.; David L. Swanson, Jr., M.D. (California at San Francisco, 1960), Fayetteville, N.C.
Clinical Assistant Professors: James C. Abell, M.D. (North Carolina at Chapel Hill, 1966), Statesville, N.C.; Tracy E. Barber, M.D. (Temple, 1943), Lexington, N.C.; Daniel H. Barco, M.D. (Duke, 1972), Durham, N.C.; Ellen T. Brubeck, M.D. (Ohio, 1975), Mount Olive, N.C.; Henry J. Carr, Jr., M.D. (Duke, 1954), Clinton, N.C.; Jerry Cassuto, M.D. (New York Med. Coll., 1956), Greensboro, N.C.; Lawrence M. Cutchin, M.D. (North Carolina at Chapel Hill, 1962), Tarboro, N.C.; Julian M. Duttera, Jr., M.D. (Duke, 1968), La Grange, Ga.; Curtis J. Eshelman, M.D. (Michigan, 1971), Durham, N.C.; Andrew L. Finn, Pharm.D. (Michigan, 1975), Durham, N.C.; Wilbur J. Harley, M.D. (Jefferson, 1950), Winston-Salem, N.C.; Harold R. Imbus, M.D. (Cincinnati, 1954), Greensboro, N.C.; Lyndon K. Jordan, M.D. (Duke, 1961), Smithfield, N.C.; Hervy B. Kornegay, Sr., M.D. (Bowman Gray, 1957), Mount Olive, N.C.; Richard E. Lassiter, M.D. (North Carolina at Chapel Hill, 1965), Chapel Hill, N.C.; Robert S. Meyer, M.D. (Temple, 1974), Mount Olive, N.C.; David E. Miller, M.D. (Duke, 1973), Fayetteville, N.C.; William A. Nebel, M.D. (North Carolina at Chapel Hill, 1962), Chapel Hill, N.C.; Donald D. Neish, M.D. (Temple, 1958), Durham, N.C.; James G. Nuckolls, M.D. (Duke, 1966), Galax, Va.; Amos T. Pagter, Jr., M.D. (Duke, 1955), Tryon, N.C.; Henry B. Perry III, M.D. (Johns Hopkins, 1974), Ph.D.

(Johns Hopkins, 1976), Peru; David C. Rockmore, M.D. (Med. Coll. of Virginia, 1975), Statesville, N.C.; Evelyn D. Schmidt, M.D. (Duke, 1951), Durham, N.C.; Robert H. Shackelford, M.D. (Bowman Gray, 1947), Mount Olive, N.C.; Hal M. Stuart, M.D. (Bowman Gray, 1956), Elkin, N.C.; George R. Tucker, Jr., M.D. (North Carolina at Chapel Hill, 1955), Henderson, N.C.; W. Beverly Tucker, M.D. (North Carolina at Chapel Hill, 1966), Henderson, N.C.; Millard W. Wester, Jr., M.D. (Duke, 1952), Henderson, N.C.; James M. Wetter, M.D. (New York at Buffalo, 1974), Fayetteville, N.C.

Clinical Associates: Michael D. Fried, M.D. (New York Univ., 1971), Chapel Hill, N.C.; Raymond A. Gaskins, Jr., M.D. (North Carolina at Chapel Hill, 1975), Fayetteville, N.C.; Daniel Gottovi, M.D. (Rochester, 1965), Wilmington, N.C.; Harold F. Haase, M.D. (Mt. Sinai, 1977), Research Triangle Park, N.C.; Peter J. Holland, M.D. (South Florida, 1977), Research Triangle Park, N.C.; John W. Lane, M.D. (Duke, 1972), Chapel Hill, N.C.; Frank W. Leak, M.D. (North Carolina at Chapel Hill, 1967), Clinton, N.C.; Michael R. McIntyre, M.S.W. (Boston Coll., 1980), Fayetteville, N.C.; Yancey G. Mebane, M.D. (Duke, 1954), Mebane, N.C.; James W. Mold, M.D. (Duke, 1974), Hillsborough, N.C.; John W. Nance, M.D. (Bowman Gray, 1948), Clinton, N.C.; Latham C. Peak, M.D. (Bowman Gray, 1951), Clinton, N.C.; John L. Rouse III, M.D. (Bowman Gray, 1973), Clinton, N.C.; Philip G. Singer, M.D. (Duke, 1975), Hillsborough, N.C.; Thomas W. Stearns, Ph.D. (Florida, 1980), Fayetteville, N.C.; Van J. Stitt, Jr., M.D. (North Carolina at Chapel Hill, 1975), Fayetteville, N.C.; Robert H. Taylor, Pharm. D. (Tennessee, 1977), Fayetteville, N.C.; James W. Turpin, M.D. (Emory, 1955), Fayetteville, N.C.

Required Course

CFM-204. Biostatistics and Epidemiology. This introductory course is equired as part of the Introduction to Clinical Medicine at the beginning of the second year. Principles and methods of biostatistics and epidemiology are taught using illustrative material from the medical literature.

CFM-205. Clerkship in Family Medicine. This basic course in family medicine consists of an eight-week clinical clerkship in the second year. The educational goal is that students understand the principles of family medicine and the application of these principles in community practice. Emphasis is placed upon the provision of continuous comprehensive health care for people of both sexes and all ages within the context of their personal social support groups in the communities where they live. Of particular importance are ambulatory care, continuity of care, management of common health problems, and health maintenance. Students also study social factors, such as the doctor-patient relationship, family dynamics, the role of the physician in the community, ethical and legal issues, and the economics of health care delivery.

The clerkship is a two-part experience, approximately half with full-time family medicine faculty in the ambulatory health care facilities in Durham closely affiliated with the Duke University Medical Center, and the other half with practicing family physicians in communities other than Durham, but principally within North Carolina. In both components of the course the learning experience is centered upon patients which students help manage under the guidance of the departmental faculty. Patients are seen in a variety of sites, including the office, home, nursing homes, public health clinics, and community hospitals.

This experience offers the student a broad and realistic perspective of medicine and its relationship to other important institutions in the community. It also provides a basis for understanding the interdependent relationships between community and referral center physicians.

Electives

CFM-212(B). Organization and Management of Ambulatory Care Centers. A series of seminars to discuss ambulatory care systems. Material covered will be of interest to all students who will work in an office setting. Emphasis will be placed on the group practice as a mechanism for providing ambulatory health services. Topics of discussion will include the conceptual basis for organizing ambulatory care centers; center objectives; automated subsystems for registration, appointments, diagnostic studies, health providers and managers; marketing; human relations; professional recruitment and group selection; financial forecast-

ing and budgeting. During the second term, discussions will center around specific areas of interest with participation in direct application. Terms: Fall 1 and 2. Weight: 1-2. *Pomeroy*

CFM-215(B).† Biostatistics in the Medical Sciences. A practical approach to statistical methods and their use in medicine and the related health sciences. Particular emphasis will be placed on issues in the design, conduct, and interpretation of clinical and epidemiologic studies. Topics covered will include data collection and management, as well as tests of statistical significance for rates and ratios as measures of disease risk; survival analysis; variable selection techniques; multivariate models for disease risk. Examples from real data and the medical literature will be used extensively. Term: Fall 2. Weight: 2. *DeLong*

CFM-225(B).† Digital Computers and Their Application in the Health Sciences. For students desiring an intensive exposure to medical computer applications. The flexible format of the course permits a variety of projects in computer medicine. Examples include projects in interactive patient interviewing; computer-aided instruction; patient/physician education; data collection, organization, retrieval, display, and analysis; and physician-assist programs. Every term. Weight: 1-8. *Hammond*

CFM-226(B). Historical Studies in a Medical Specialty. This elective is offered primarily to those who have made the choice of their probable career specialty. It is intended to provide an appreciation of the developments in that specialty and thereby deepen an understanding of it. While the choice of elective topic will be made on an individual basis and depend on the interests of each student, emphasis generally will be placed on specific theoretical, practical, and organizational developments since the second half of the nineteenth century. The format comprises selected readings, tutorials and student project. Every term. Weight: 1 or 2. *Crellin, Gifford, and English*

CFM-227(B).† Medicine in America. The historical development of medical science, the medical profession, and patterns of medical care in the United States. Topics covered will include bases of authority for the practice of medicine, the standing of the physician in society, medical education, medical sects, the evolution of hospital care, medical organizations, and health care delivery systems. The history of the Duke University Medical Center provides a closing recapitulation of course themes. Additional units of credit may be earned through independent study. Terms: Fall 2, Spring 2. Weight: 1. *Gifford and Crellin*

CFM-229(B).† The Development of and Perspectives on Modern Medicine. Comprising lectures, discussion, and readings, this course outlines the general history of medicine, with particular attention given to recent developments. The course will include such topics as the contributions of William Harvey, aspects of clinical diagnosis, and the evolution of key concepts in modern medicine such as cell theory, the germ theory, anticepsis, and theories of immunity. Full use will be made of the excellent resources of the Trent Collections. Additional units of credit may be earned through independent study. Terms: Fall 1 or Spring 1. Weight: 1. *Gifford and Crellin*

CFM-230(B).† Comparison of Services for the Elderly—United States and United Kingdom. The delivery of services at the community level in the U.S. and U.K. will be compared. Problems will be discussed in terms of biology of aging, demography, utilization of health resources, economic and financial implications, and policy directions. Term: Spring 1. Weight: 1. *Moore*

CFM-232(B).† Medical Uses of Computers. An introductory course on applications of computers in clinical medicine. Special emphasis is given to various

†For further information, contact the Associate Dean for Graduate Medical Education.

methods of collecting data from patients and making such data available for computer analysis. Working computer applications in several medical environments will be considered as examples, including visits to these units. The student will, in addition to the above, be taught the principles of computer programming through an exposure to a higher level computer language. Experience will include the writing of simple computer programs and hands on experience with computers and computer input and output devices. Terms: Fall 1 and 2. Weight: 3. *Hammond*

CFM-233(B).† Occupational Medicine. (Formerly Medicine and Industry). Student participation in projects being conducted in the Division of Occupational Medicine. Background material will be presented covering history of occupational (industrial) medicine, labor legislation, workmen's compensation and the Occupational Safety and Health Act (OSHA) of 1970. Clinical and epidemiological aspects of occupational diseases will be included, with emphasis on industrial hygiene and toxicology. Organization and administration of employee health programs will also be considered, with visits to representative establishments as part of the experience. Typical projects include such matters as evaluation of chemical exposures in the work environment, reactions of humans to chemical stress, medical evaluation of suspected cases of occupational disease. Terms: Fall 2, Spring 1 and 2, or Summer 2. Weight: 6. *Cromer, Stopford, Deubner, and Hansen*

CFM-234(B).* Seminar in Occupational Medicine and Toxicology. Seminar topics will relate to environmental hazards important in North Carolina. North Carolina has several important industries including agriculture, tobacco processing, textile manufacturing, and furniture manufacturing. Several occupational medicine physicians from local industries will be participants in this seminar series. Terms: Summer 2, Fall 2, and Spring 2. Weight: 2. *Cromer, Stopford, Deubner, and Hansen*

CFM-238(B).† Tutorial in Community and Family Medicine. An eight week, individually arranged experience in which the student participates in the research program of a faculty member. The subject matter, course weight, and meeting time will be arranged with the faculty member. Each student will meet regularly with the faculty preceptor and will carry out a project related to the preceptor's work. Through these discussions and project, the student will be able to develop an understanding of the discipline involved. Possible areas include management sciences, economic aspects of health care, computer technology, biostatistics, epidemiology, medical anthropology, health in the developing world, and organization of health care delivery in third world countries. Because of the variety of projects available and the necessity of prior arrangements, it is essential that interested students consult with the instructor or staff at least one month before the beginning of the term elected. Every term. Weight: 1-8 per term. *Estes and staff*

CFM-240(B).† Epidemiologic Principles and Methods. Topics covered in this course include study of the distribution of disease in populations, issues in study design, data collection, and methods of analysis. Modules on the subjects of case-control, cohort, and cross-sectional studies, clinical trials, and intervention studies are presented. Methods are also introduced for assessing and dealing with bias, misclassification, and confounding. Primary reference papers serve as the main text for the course to enable students to gain facility in critical review of medical literature. Lectures will be supplemented by outside readings, seminars, and student presentations. Term: Fall 2. Weight: 2. *Grufferman, DeLong, Delzell, and Kimm*

CFM-242(B).† Nutrition Epidemiology. Nutrition epidemiology may be defined as the study of the role of the nutrition factor in the *causal web* of illness

patterns in human populations. This course offers a systematic review of population approaches to the study of nutrition. Currently, most nutrition courses are primarily concerned with studies using *in vitro* laboratory techniques, animal models, or individual human subjects, with minimal emphasis on human population groups in their natural environments. In the course, emphasis will be placed on methods available for chronic disease epidemiologic research since most nutritional disorders in man are basically chronic. Particular attention will be directed to principles of research design and critical analyses of selected studies. It is hoped that at the completion of the course, the student will be prepared to design and conduct population-based studies on human nutrition. Terms: Spring 1. Weight: 1-2. Sue Y.S. Kimm

CFM-219(C).† Tutorial in Clinical Epidemiology. Selected topics will be chosen for reading and discussion. Major emphasis is on cardio-cerebrovascular chronic-degenerative diseases, major neoplastic diseases, and industrial cancer screening; nutrition (cholesterol, sodium, potassium, 700 cal diet, etc.) Terms: Spring 1 and 2. Weight: 2. Heyden

CFM-221(C).† The Computer Textbook of Medicine. Students will participate in the writing and updating of the computer textbook of medicine. Information contained in the initial chapter of ischemic heart disease will be used to assist in the management of patients on the cardiology service. Every term. Weight: 2 and 4. Rosati and Starmmer

CFM-239(C). Community and Family Medicine Preceptorships. A preceptorship will be arranged for students to work with family physicians in community practice sites. In this way students can observe and participate in the delivery of health care to individual patients and their families within the context of the community in which they live. A wide variety of geographic locations and practice types are available. Limited options are available for practice in a setting in the developing world with the Andean Rural Health Project. Because of the necessity for prior arrangements with preceptors, it is essential that interested students contact the instructor as soon as possible and at least one month prior to the desired term. Terms: Fall 1 and 2, Spring 1 and 2, Summer 1 and 2. Weight: 4-9. Parkerson and staff

CFM-241(C).† Community Health Assessment. A tutorial in which the first term discussion will focus on various methods of assessing the health needs of a population. Particular emphasis will be given to the impact of cultural patterns of selected cultural and ethnic groups on the utilization of health services. Durham County will be the primary but not the sole model to be studied. In the second term tutorials will be of a practical nature and/or emphasize fieldwork. Students will visit one or more agencies concerned with the delivery, planning, or evaluation of health care. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 1-3. Bender and Hansen

CFM-246(C).† Bioethics. Lectures, discussion, and readings in selected ethical questions raised by modern biomedical science and technology; including such topics as genetics and the "new biology," contraception, abortion, experimentation consent, behavior control, scarce medical resources, dying, and death. Terms: Fall 1 or 2. Weight: 1. Smith

CFM-247(C).† Philosophic Problems for Physicians. This seminar brings the resources of philosophy, literature, poetry, psychology, and sociology to bear on specific ethical and philosophical problems with which practicing physicians deal. The course proceeds with didactic and seminar presentations focusing on both medical-legal controversies and ethical dilemmas in the day-to-day practice of medicine. The historical as well as psychological roots of medical ethics will be explored in light of conflicting philosophies of science and medicine. The

following topics will be among those offered for consideration: (1) the doctor-patient relationship and models of medicine; (2) ethical codes and laws; (3) meaning of informed consent; (4) abortion, euthanasia, eugenics, and definitions of death; (5) behavior control, psychotherapy, and psychosurgery in a free society; (6) medical judgment and medical regulations; (7) hypochondriasis, patient responsibility, and the unwanted patient; (8) professional detachment and commitment; and (9) value considerations in specialty choice. Terms: Spring 1 and 2. Weight: 2 or 4. *Dyer*

CFM-249(C).† Issues in Law and Medicine. A seminar which introduces participants to the basic approach of law and legal process to contemporary issues in medical care, including genetic manipulation, abortion and sterilization, consent/authorization for treatment, human experimentation, self-care, euthanasia, and malpractice. Topics may be chosen by individual students. The rights of physicians and patients as well as the legal mechanisms for resolving disputes will be examined. Terms: Fall 1, Spring 2. Weight: 2. *Warren*

CFM-259(C). Advanced Clerkship in Family Medicine. Students will participate in the management of patients in local ambulatory primary care settings. These include the Duke-Watts Family Medicine Center, the Family Clinic of the University Health Services Division, the Durham County Health Department, and the offices of select practicing family physicians. Emphasis is placed upon comprehensive, continuous, excellent, personal care for individuals and families. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 2-8. *Parkerson and staff*

CFM-261(C). Family Medicine Continuity Experience. Students will manage patients in the Family Medicine Center under supervision of faculty family physicians two half-days a week. Continuity of care is emphasized by providing comprehensive medical care to specific families over periods of two to eight months. Diagnostic coding and the problem-oriented record system are utilized. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 2-8. *Parkerson and staff*

CFM-262(C). Field Study in Occupational Medicine. This eight-week course is intended to provide practical instruction in occupational medicine. It will include a minimum of sixteen hours of seminars, clinical experience in occupational medicine, a field experience at an established industrial health service, and a written analysis of an important occupational hazard within the industry. Every term. Weight: 6. *Cromer, Hansen, Stopford, and Deubner*

CFM-263(C). Relating to the Patient as a Family Doctor. Family dynamics and psychosomatic concepts are related to family medicine and primary care. Terms: Spring 1 and 2. Weight: 2. *Moore, Novik, and Kertesz*

CFM-267(C). Team Training for Primary Health Delivery. This course provides experience/study in primary care delivery, with emphasis on the concept of the health care team, including professionals: family physician, clinical psychologist, nurse practitioner or physician associate, and health educator/community organizer. The student will consider alternate models for the use of the team approach in the United States and in the developing world. The student will be exposed to the team approach through seeing patients under the direction of the faculty, by observing the interaction of the team members, and by participating in the team's weekly case-oriented conferences. Every term. Weight: 4-8. *Perry and Bender*

CFM-269(C). Methods of Recording and Analyzing Clinical Data. Methods of indexing patient problems are presented as a basis for research studies in medical care. Students will record problems of patients encountered on their clinical rotations and perform analyses on these data. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 1-4. *Parkerson*

CFM-270(C). Health Services Research. The student will develop and conduct a study in the area of health services research, including such general headings of quality of care, cost containment, patient satisfaction, and compliance with medical regimens. An option exists for students to study the impact of health services in a developing world setting. General headings for study include the above as well as rates of morbidity and mortality, population age structures and dependency ratios, health and illness beliefs and behaviors, health status, and evaluation of programmatic interventions. One or two credits will be given in one semester for project development, to be followed by 4 to 8 credits in a subsequent semester for performance of the research. Every term. Weight: 1-8. *Gehlbach, Perry, and Bender*

CFM-273(C).† The Ideal Physician. The elective will explore, from the perspectives of history and ethics, the concept of the ideal physician in relation to such figures as Hippocrates, Osler, and others, as well as students' and patients' conceptions of what a physician should be: technician and/or humanist. Term: Fall 1. Weight: 1-2. *Dyer and medical history staff*

CFM-274(C).† The Ideal Patient. This elective will focus, using the disciplines of history and ethics, on the physician's relationship with the patient and how to deal with patients' expectations of what medicine has to offer. Topics highlighted will include the growth of medical technology, concepts of disease, psychosomatic medicine, and the medicalization of life. Term: Fall 2. Weight: 1-2. *Dyer and medical history staff*

CFM-400(C). Geriatric Medicine. This elective is offered by the interdepartmental faculty of the Division of Geriatric Medicine. The student will work with faculty, fellows, and housestaff in a number of settings involved in the care of the geriatric patient. These will include the Geriatric Evaluation and Treatment Clinic (Duke), Geriatric Evaluation Unit and Clinic (Veterans Administration Medical Center), geriatric consultation services (Veterans Administration Medical Center, Durham County General Hospital, Duke), nursing home facilities, interactions with community services (Coordinating Council for Senior Citizens), home assessment, and others. Principles to be stressed will be biology and pathophysiology of aging; multiple clinical problems in the elderly; interdisciplinary team approach to evaluation, planning, and treatment; goals of maximal functional achievement and independence for the elderly. The student will participate actively in the workup and management of patients in both inpatient and outpatient settings as well as become more familiar with the problems of the elderly in the community. Familiarity with the growing literature in geriatric medicine will be encouraged and the student will participate in seminars, lectures, and team meetings at the appropriate sites including the Duke Center for the Study of Aging. Every term. Weight: 4 or 8. *Cohen, Cohn, Crawford, Friedman, Harrell, Moore, Neish, Simpson, Sullivan, and Warshaw*

Medicine

Professor: James B. Wyngaarden, M.D. (Michigan, 1948); *Chairman.*

DIVISION OF CARDIOLOGY

Professor: Joseph C. Greenfield, M.D. (Emory, 1956); *Chief.*

Professors: Victor S. Behar, M.D. (Duke, 1961); Walter L. Floyd, M.D. (Johns Hopkins, 1954); John J. Gallagher, M.D. (Georgetown, 1968); Yi Hong Kong, M.D. (Natl. Defense Med. Ctr., Taiwan, 1958); Robert J. Lefkowitz, M.D. (Columbia, 1966); James J. Morris, M.D. (State Univ. of New York, 1959); Robert H. Peter, M.D. (Duke, 1961); Eugene A. Stead, Jr., M.D. (Emory, 1932); Andrew G. Wallace, M.D. (Duke, 1959); Robert E. Whalen, M.D. (Cornell, 1956).

Associate Professors: Fred R. Cobb, M.D. (Mississippi, 1964); Joseph R. Kisslo, M.D. (Hahnemann, 1967); Barbara C. Newborg, M.D. (Johns Hopkins, 1949); Robert A. Rosati, M.D. (Duke, 1967);

C. Frank Starmer, Ph.D. (North Carolina at Chapel Hill, 1968); Harold C. Strauss, M.D. (McGill, 1964); Galen S. Wagner, M.D. (Duke, 1965).

Assistant Professors: John T. Baker, M.D. (Harvard, 1971); Augustus O. Grant, M.D. (Univ. of Edinburgh, 1971); Michael Hindman, M.D. (Illinois, 1973); Edward Pritchett, M.D. (Ohio, 1971); Olaf von Ramm, Ph.D. (Duke, 1973); Judith L. Swain, M.D. (California at San Diego, 1974); Robert Waugh, M.D. (Pennsylvania, 1966); R. Sanders Williams, M.D. (Duke, 1974).

Associates: Eric Conn, M.D. (Duke, 1976); Michael C. Dillon, M.D. (Kentucky, 1975); Lawrence D. German, M.D. (Boston, 1976); Richard S. Kent, M.D. (California, 1975); Kenneth G. Morris, M.D. (Ohio, 1972); Harry R. Phillips, M.D. (Duke, 1975); Ralph Scallion, M.D. (Case Western, 1975); Gary Stiles, M.D. (Vanderbilt, 1975).

Assistant Medical Research Professors: Marc G. Caron, Ph.D. (Miami, 1973); Philip McHale, Ph.D. (Duke, 1972); Judith C. Rembert, Ph.D. (North Carolina at Chapel Hill, 1972); William M. Smith, Ph.D. (Duke, 1970); Thomas R. Snow, Ph.D. (Duke, 1971).

DIVISION OF DERMATOLOGY

Professor: Gerald S. Lazarus, M.D. (George Washington, 1963); *Chief*.

Professors: J. Lamar Callaway, M.D. (Duke, 1932); Sheldon R. Pinnell, M.D. (Yale, 1963).

Associate Professors: Robert S. Gilgor, M.D. (Pennsylvania, 1962); Brian V. Jegasothy, M.D. (Univ. of Ceylon, 1966).

Assistant Professor: Sheldon V. Pollock, M.D. (Univ. of Toronto, 1974).

Medical Research Associates: Saood Murad, Ph.D. (California at Davis, 1978); Kay H. Singer, Ph.D. (Duke, 1977).

Associate: Gabriella Castillo, M.D. (Chicago, 1975).

DIVISION OF ENDOCRINOLOGY

Associate Professor: Francis Neelon, M.D. (Harvard, 1962); *Acting Chief*.

Professors: Harold E. Lebovitz, M.D. (Duke, 1948); Harry T. McPherson, M.D. (Duke, 1948).

Associate Professors: Marc K. Drezner, M.D. (Pittsburgh, 1970); Jerome M. Feldman, M.D. (Northwestern, 1961); Charles Johnson, M.D. (Howard, 1963).

Assistant Professors: Warner Burch, M.D. (Bowman Gray, 1971); George S. Eisenbarth, M.D. (Duke, 1974); Mark Feinglos, M.D. (McGill, 1973); Kenneth S. McCarty, M.D. (Duke, 1972).

Associate: B. Titus Allen, M.D. (Duke, 1966).

DIVISION OF GASTROENTEROLOGY

Professor: Malcolm P. Tyor, M.D. (Duke, 1946); *Chief*.

Professor: Michael McLeod, M.D. (Duke, 1960).

Associate Professors: John T. Garbutt, M.D. (Temple, 1962); Paul Killenberg, M.D. (Pennsylvania, 1963); Thomas T. Long, M.D. (Bowman Gray, 1966); Charles M. Mansbach, M.D. (New York Univ., 1963); Steven H. Quarfordt, M.D. (New York Univ., 1960).

Assistant Professors: Lowrie R. Glasgow, M.D. (Virginia, 1969); Jacqueline C. Hijmans, M.D. (Univ. of Leiden, 1951); Stuart Robinson, M.D. (Duke, 1973); James K. Roche, M.D. (Pennsylvania, 1969).

Associate: Robert L. Heacock, M.D. (Ohio, 1976).

DIVISION OF GENERAL MEDICINE

Professor: Patrick A. McKee, M.D. (Oklahoma, 1962); *Chief*.

Professor: Frank Lecocq, M.D. (Illinois, 1954).

Associate Professor: George J. Ellis, M.D. (Harvard, 1963);

Assistant Professors: John R. Feussner, M.D. (Vermont, 1973); KhinMae Hla, M.D. (Inst. of Med., Burma, 1971); Ramon Velez, M.D. (New York Univ., 1970); Eugene Linfors, M.D. (Duke, 1971).

Associate: J. Trig Brown, M.D. (Washington Univ., 1977).

Assistant Medical Research Professors: Larry J. Fretto, M.D. (California at Los Angeles, 1972); Mary Ellen Switzer, Ph.D. (Illinois, 1973).

DIVISION OF HEMATOLOGY

Professor: Wendell F. Rosse, M.D. (Chicago, 1958); *Chief*.

Professors: Harvey J. Cohen, M.D. (SUNY, 1965); John Laszlo, M.D. (Harvard, 1955); R. Wayne Rundles, M.D. (Duke, 1940); Harold R. Silberman, M.D. (Washington Univ., 1956).

Associate Professors: Andrew T. Huang, M.D. (Taiwan, 1965); Gerald Logue, M.D. (Pittsburgh, 1966).

Assistant Professors: Wayne Brenckman, M.D. (Yale, 1963); Edwin B. Cox, M.D. (Duke, 1971); Russell Kaufman, M.D. (Ohio, 1973); Roger Kurlander, M.D. (Chicago, 1971); Joseph Moore, M.D. (Johns Hopkins, 1970); James E. Niedel, M.D. (Miami, 1973); Nancy W. Stead, M.D. (Duke, 1969); J. Brice Weinberg, M.D. (Arkansas, 1969).

Associates: Theresa M. Blumfelder, M.D. (Missouri, 1973); Jeffrey Crawford, M.D. (Ohio, 1974); Thomas Reichert, M.D. (Miami, 1978).

Medical Research Professor: Joseph E. Sokal, M.D. (Yale, 1940).

Assistant Medical Research Professor: W. David Sedwick, Ph.D. (Pennsylvania, 1970).

Medical Research Associate: Emily Reisner, Ph.D. (Case Western Reserve, 1969).

DIVISION OF INFECTIOUS DISEASE

Associate Professor: David T. Durack, M.D. (Oxford, 1973), *Chief*.

Associate Professors: Charles Ellenbogen, M.D. (Chicago, 1964); John D. Hamilton, M.D. (Colorado, 1964).

Assistant Professors: Harry A. Gallis, M.D. (Duke, 1967); Robert J. Sullivan, Jr., M.D. (Cornell, 1966).

Associates: G. Ralph Corey, M.D. (Baylor, 1973); John R. Perfect, M.D. (Med. Coll. of Ohio, 1975).

DIVISION OF NEPHROLOGY

Associate Professor: Vincent W. Dennis, M.D. (Georgetown, 1966); *Chief*.

Professors: James R. Clapp, M.D. (North Carolina at Chapel Hill, 1957); J. Caulie Gunnells, M.D. (South Carolina Med. Coll., 1956).

Associate Professors: Robert A. Gutman, M.D. (Florida, 1962); Robert H. Harris, M.D. (Georgia, 1966); William E. Yarger, M.D. (Baylor, 1963).

Assistant Professors: Peter C. Brazy, M.D. (Washington Univ., 1972); Richard M. Portwood, M.D. (Texas, 1954); William W. Stead, M.D. (Duke, 1973).

Associate: Paul E. Klotman, M.D. (Indiana, 1976).

DIVISION OF NEUROLOGY

Professor: Allen D. Roses, M.D. (Pennsylvania, 1967); *Chief*.

Professors: James N. Davis, M.D. (Cornell, 1965); Albert Heyman, M.D. (Maryland, 1940); John B. Pfeiffer, Jr., M.D. (Cornell, 1942); Donald B. Sanders, M.D. (Harvard, 1964).

Associate Professors: James O. McNamara, M.D. (Michigan, 1968); Ara Tourian, M.D. (Iowa, 1958).

Assistant Professors: Barrie J. Hurwitz, M.B. (Witwatersrand Univ., 1968); E. Wayne Massey, M.D. (Texas, 1970); C. Warren Olanow, M.D. (Toronto, 1965); S. Clifford Schold, M.D. (Arizona, 1973).

Associates: Andrew Brogdon, M.D. (Washington Univ., 1977); Miles E. Drake, M.D. (Duke, 1977); Lindy E. Harrell, M.D. (Miami, 1977); John Scott Luther, M.D. (North Carolina at Chapel Hill, 1974); Keshau R. Rao, M.D. (All India Inst. of Med., 1972).

DIVISION OF PULMONARY-ALLERGY

Associate Professor: James D. Crapo, M.D. (Rochester, 1971); *Chief*.

Professors: Charles E. Buckley, M.D. (Duke, 1954); Johannes A. Kylstra, M.D. (Univ. of Leiden, 1952); William S. Lynn, M.D. (Columbia, 1946); Herbert A. Saltzman, M.D. (Jefferson, 1952); Herbert O. Sieker, M.D. (Washington Univ., 1948).

Assistant Professors: Albert O. Davies, M.D. (Utah, 1975); Khalil Kariman, M.D. (Meshed, 1969); Douglas G. Kelling, M.D. (Harvard, 1972); Neil MacIntyre, M.D. (Cornell, 1972); Claude Plantados, M.D. (Johns Hopkins, 1975); Lyn Thet, M.D. (Inst. of Med., Burma, 1971); Stephen L. Young, M.D. (California, 1968).

Associate: John R. Cohn, M.D. (Jefferson, 1976).

Assistant Medical Research Professors: Sambhu N. Bhattacharyya, Ph.D. (Univ. of Calcutta, 1969); Mary C. Rose, Ph.D. (Case Western, 1970).

Medical Research Associates: Bruce Freeman, Ph.D. (California, 1978); Nelson Leatherman, Ph.D. (Michigan, 1967); Chhabirani Mukherjee, Ph.D. (Univ. of Calcutta, 1969); Sakti P. Mukherjee, M.D. (Univ. of Calcutta, 1973);

DIVISION OF RHEUMATIC AND GENETIC DISEASE

Professor: Ralph Snyderman, M.D. (State Univ. of New York, Downstate Med. Ctr., 1965); *Chief*.

Professors: Edward W. Holmes, M.D. (Pennsylvania, 1967); Grace P. Kerby, M.D. (Duke, 1946); Nicholas M. Kredich, M.D. (Michigan, 1962); James B. Wyngaarden, M.D. (Michigan, 1948).

Associate Professors: Barton E. Haynes, M.D. (Baylor, 1973); Michael S. Hershfield, M.D. (Pennsylvania, 1967);
Assistant Professors: F. Andrew Barada, M.D. (Virginia, 1971); David S. Caldwell, M.D. (Bowman Gray, 1967); David S. Pisetsky, M.D. (Albert Einstein, 1973); John R. Rice, M.D. (Miami, 1968).
Associate: Gale A. McCarty, M.D. (Duke, 1974).
Medical Research Professor: George Cianciolo, Ph.D. (Miami, 1977); Marilyn Pike, Ph.D. (Duke, 1979).

ADJUNCT FACULTY

Professors of Experimental Medicine: Pedro Cuatrecasas, M.D. (Washington, 1962); Gertrude B. Elion, D.Sc. (George Washington, 1969); George H. Hitchings, Ph.D. (Harvard, 1933); Robert A. Maxwell, Ph.D. (Princeton, 1954); Charles A. Nichol, Ph.D. (Wisconsin, 1949).
Associate Professors: David W. Barry, M.D. (Yale, 1969); Thomas Wiltbank, M.D. (Tufts, 1968).
Assistant Professors: Kuttikkat Chandrabose, Ph.D. (Cornell, 1970); Richard DiAugustine, Ph.D. (Tulane, 1968); Thomas E. Eling, Ph.D. (Alabama, 1968); Gary E. R. Hook, Ph.D. (Victoria, 1968); Jo Ellen Hulsingh, Ph.D. (North Carolina State Univ., 1973), Research Triangle Park; Thomas L. Wenger, M.D. (Boston, 1971), Research Triangle Park.
Associate of Experimental Medicine: Thomas O'Neil, Ph.D. (California, 1974).

CLINICAL FACULTY

Clinical Professor: John R. Haserick, M.D. (Minnesota, 1941).
Associate Clinical Professor: Harold L. Godwin, M.D. (Harvard, 1947), Fayetteville, N.C.
Clinical Assistant Professors: Syed Ahmed, M.D. (Dow Med. Coll., 1967), Danville, Va.; Thomas M. Bashore, M.D. (Ohio State, 1972), Fairfax, Va.; A. Derwin Cooper, M.D. (George Washington, 1932), Durham, N.C.; Walter E. Davis, M.D. (Duke, 1966), Durham, N.C.; Gloria F. Graham, M.D. (Bowman Gray, 1961), Wilson, N.C.; Thomas R. Harris, M.D. (Tennessee, 1955), Shelby, N.C.; William E. Howler, M.D. (Med. Univ. of South Carolina, 1970), Fayetteville, N.C.; John T. Joyner, M.D. (Bowman Gray, 1962), Asheville, N.C.; James R. Kelly, M.D. (Duke, 1970), Durham, N.C.; John C. Lumsden, B.S. (North Carolina State Univ. 1947), Raleigh, N.C.; Jesse Roberts, M.D. (Louisiana, 1961), Winston-Salem, N.C.; Charles W. Styron, M.D. (Duke, 1938), Raleigh, N.C.; Abe Walston, M.D. (Duke, 1963), Durham, N.C.; Khye Weng, M.D. (Univ. of Malaya, 1956), Durham, N.C.; Edward S. Williams, M.D. (North Carolina at Chapel Hill, 1954), Durham, N.C.
Clinical Associates: Sherwood W. Barefoot, M.D. (Duke, 1938), Greensboro, N.C.; Woodrow W. Batten, M.D. (Bowman Gray, 1944), Smithfield, N.C.; William R. Berry, M.D. (Duke, 1973), Raleigh, N.C.; Robert A. Buchanan, M.D. (Bowman Gray, 1969), Durham, N.C.; John R. Bumgarner, M.D. (Med. Coll. of Virginia, 1939), Raleigh, N.C.; Calvert R. Busch, M.D. (Med. Coll. of Wisconsin, 1969), Asheville, N.C.; Alexander Chiaramont, M.D. (Michigan, 1976), Cary, N.C.; F. Farrell Collins, M.D. (Vermont, 1972), Pinehurst, N.C.; George W. Crane, M.D. (Northwestern, 1946), Durham, N.C.; Michael S. Entmacher, M.D. (Duke, 1968), Durham, N.C.; Walter C. Fitzgerald, M.D. (Virginia, 1943), Danville, Va.; Harvey E. Grode, M.D. (Duke, 1960), Durham, N.C.; John H. Hall, M.D. (Duke, 1964), Greensboro, N.C.; Michael A. Hamilton, M.D. (Rochester, 1964), Durham, N.C.; H. LeRoy Izlar, M.D. (Duke, 1948), Durham, N.C.; George E. Koury, M.D. (Tulane, 1944), Burlington, N.C.; Stanley Levy, M.D. (Georgetown, 1971), Durham, N.C.; Thomas D. Long, M.D. (Bowman Gray, 1952), Roxboro, N.C.; Emmett S. Lupton, M.D. (New York Univ., 1938), Greensboro, N.C.; John A. Lusk, M.D. (Alabama, 1951), Greensboro, N.C.; Edmond Miller, M.D. (Duke, 1956), Durham, N.C.; W. S. Miller, M.D. (North Carolina at Chapel Hill, 1961), Raleigh, N.C.; John A. Moore, M.D. (Med. Coll. of Virginia, 1948), Greensboro, N.C.; Henry T. Perkins, M.D. (Duke, 1957), Raleigh, N.C.; Wade G. Rhoades, M.D. (Bowman Gray, 1960), Goldsboro, N.C.; Jack G. Robbins, M.D. (Duke, 1948), Durham, N.C.; Richard J. Rosen, M.D. (George Washington, 1955), Greensboro, N.C.; Manfred Rothstein, M.D. (Duke, 1974), Fayetteville, N.C.; Mehrood M. Sahba, M.D. (Isfahan Faculty of Med., Iran, 1957), Durham, N.C.; William V. Singletary, M.D. (Duke, 1943), Durham, N.C.; W. Harrison Turner, M.D. (Med. Coll. of Virginia, 1968), Durham, N.C.; William G. Wysor, M.D. (Virginia, 1950), Durham, N.C.

Required Courses

The Department of Medicine traditionally has the responsibility of preparing students for a lifetime of learning as they give care to patients who ask them for help. The first step is to begin to think and act like a doctor.

MED-201—Introduction to Clinical Medicine—a course in the first year prepares the student to take an active role in patient care. The course is designed to introduce students to the methods involved in obtaining information about patients and their problems by means of accurate and complete history taking and performance of physical and laboratory examinations. Early in the course, students

are taught the methods used in patient interviewing, the essentials of examination of various organ systems, and the techniques and meaning of the hematological and other laboratory examinations by means of introductory lectures and experience with patients on the ward and in the laboratory. Information obtained in the other first year courses is correlated with clinical manifestations of health and disease. The abnormalities found in the physical examination of certain organ systems are correlated with the abnormalities of laboratory values found. Patient conferences are used to demonstrate the value of obtaining all data about patients to solve their problems. Students are expected to learn to do this for patients with whom they have contact during ward sessions.

MED-205—the basic course in medicine for all students is the eight-week clinical clerkship in the second year. Students' desire to give good care is the motive which drives them to excellence. The student learns to identify problems of the patient and marshal the information obtained by past training. The student recognizes and attempts to focus the data learned from the basic sciences to specific clinical problems. Using patients as a means of integration, students should continue reading in anatomy, physiology, microbiology, pharmacology, and biochemistry. Problems encountered are discussed with fellow students, interns, residents, and senior staff to gain familiarity with ideas and concepts by actively manipulating them.

The goal of the Department of Medicine is for students to have as many learning experiences as possible by active participation. It is hoped that they will enjoy these learning experiences so much that they will continue them as long as they see patients. The goal is not to cover the entire field of medicine. Students will engage in extensive postdoctoral clinical or research training. The aims are to assist students in acquiring clinical skills and learning habits that will enable them to identify and solve new problems as they are encountered.

In caring for patients with ill-defined genetic and acquired differences with numerous unknown variables, many erroneous conclusions may be made. Students must learn to examine carefully oral and written statements, and inquire of all authorities the source of data which underlie their conclusions. One way for students to learn the difficulties in drawing accurate conclusions about biological systems is to give them opportunities to establish facts on the basis of their own research. This is a very effective method of teaching. The intellectual discipline involved better prepares the future clinician for the role of a lifetime of learning and enables academically oriented students to assess their own potentialities for investigative careers.

The second-year course in medicine is aimed at providing students with the basic tools used in the practice of medicine. This is the time when they should consolidate the material learned during the first year and apply it to the study of their own patients. During a brief eight-week course it is not possible to cover the entire body of knowledge of internal medicine. Therefore, students are provided with a series of representative learning experiences based on the case study method. The goals are to teach methods of approach to patients and to provide a firm foundation for the solution of new medical problems as they are encountered in the months and years ahead.

Specific expectations of sophomore students are: (1) To obtain and carefully record meaningful histories and perform physical examinations on two or three patients each week. On the day of admission the student will review and compare findings with the responsible intern or resident. Difference of opinions should be discussed and, when possible, resolved by a return to the bedside. The following day students will present their data to the attending physician. The presentation should be well organized (with the help of the resident), and the presented illness should include a carefully reasoned documentation of the events in chronological order which led to the patient's hospitalization. It should contain pertinent facts



leading to the most likely diagnosis and also the pertinent negative facts which weigh against a possible alternative diagnosis. (2) To examine their patients repeatedly and reflect on the diagnostic and therapeutic management. It is their responsibility to understand the objectives and to know the results and the interpretation of all diagnostic tests applied to their patients. They will actually perform as many of the necessary tests as possible and record their interpretations in frequent progress notes. (3) To read widely on topics related to their patients, particularly in applicable basic sciences to understand disease mechanisms. They should begin with the descriptions in standard textbooks of medicine which serve as a useful introduction to the subject. Special aspects of the patient's problem should be pursued in basic science or other textbooks, in monographs, or in relevant journals. (4) To know in depth those diseases present in their own patients, including different diagnostic features which distinguish those conditions from related diseases. At this stage of training they are not expected to have equivalent depth of knowledge of diseases that they have not yet encountered, but are responsible for knowing the major points about patients presented in rounds or at the various noon conferences. Principles of therapy should be understood, but details of drug regimens are better left for subsequent experiences. Students are encouraged to participate actively in all teaching exercises on the ward, whether or not their own patients are being discussed.

Electives

MED-210(C). Advanced General Medicine, Durham County General Hospital. Under the supervision of the junior assistant resident, the student will assume prime responsibility for the care of five to seven patients admitted to the teaching service at DCGH. Teaching input will come from the division of General Medicine (Duke) and the physicians whose patients are admitted to DCGH. Every term. Weight: 8. *Neelon, McKee, Brown, Corey, Lecocq, and Linfors*

MED-211(C). Advanced General Medicine in a Community Hospital (Cabarrus Memorial Hospital, Concord, N. C.). The student will be responsible for the management of inpatients under the supervision of a senior resident and the senior staff and will also be introduced to the management of patients by community physicians on an outpatient basis. Students interested in taking the course must apply and be interviewed for acceptance. Every term. Weight: 9. *Wagner, Long, and Kelling*

MED-213(C). Intensive Care Medicine—Duke. Students will rotate on an every other night call basis (twenty-four hours), under the supervision of junior assistant residents (JAR) and assistant chief residents (ACR). Students will function at a subintern level. Workup, procedures, daily presentation to the senior staff, follow-up, and plans regarding their patients will be made by the students under the direct supervision of the JAR. Daily didactic lectures in topics related to diagnosis and treatment of critically ill patients (e.g., hemodynamic monitoring, ventilators, shock, acid base, poisoning, etc.) will be given by senior staff involved in intensive care, as well as by speakers from other disciplines. A copy of the list of these lectures can be obtained from the Registrar's office. A physiological approach to critical care medicine is stressed. In addition to daily informal discussion with JARs and ACRs, there will be a formal discussion for one hour, once a week, with the rounding senior staff. In these discussions students will participate and one case will be presented to the attending, and fully discussed. Students interested in this course should sign up in advance. A firm commitment by students is required and students are advised to find a replacement in the event of drop-out. Every term. Weight: 4. *Kariman and Davies*

MED-214(C). Intensive Care Medicine-Veterans Administration Medical Center. This four-week course is open to three students who will rotate on an

every third night call schedule. Under the supervision of junior assistant residents and a pulmonary fellow, the student will function as a junior intern and will be responsible for patient workups and daily bedside presentations. Students will be given responsibilities for procedures and decision making commensurate with their abilities. Daily attending rounds stress a physiologic approach to the management of critically ill patients. Each student will be provided with a syllabus of selected readings which will supplement regular didactic sessions on diagnosis, pathophysiology, and management of critical illness. Students should sign up in advance and are advised to arrange for a replacement if the course is dropped. Every term. Weight: 4. *Young*

MED-215(C). Clinical Dermatology. Students will be integrated into the dermatology program for one month. They will attend public and private outpatient clinics at Duke Hospital and the Veterans Administration Hospital. They will participate in inpatient teaching rounds, the clinical diagnostic conference, pathology conference, and basic science seminar. The course is designed to teach elements of dermatological diagnosis, management, and pathophysiology. Every term. Weight: 4. *Lazarus, Gilgore, Jegasothy, Pinnell, Pollack, and resident staff*

MED-216(C). Clinical Dermatology. Student will be given a series of three lectures weekly using 35 mm Kodachromes to illustrate both clinical presentation and pathology in an effort to understand the pathologic physiology of dermatologic disorders and their management and treatment. Patient demonstrations will be made one-half day to greatly enhance clinical experience. Lecture and demonstration course only. See MED-215(C) for course offering 4 credits. Term: Spring 1. Weight: 2. *Lazarus, Gilgore, Pinnell, Pollack, and Jegasothy*

MED-217(C). Gastroenterology. The role of the gastrointestinal tract and liver in health and disease is emphasized through use of liver and small bowel biopsy with morphological, biochemical, and physiological studies in the daily diagnosis and care of patients hospitalized on the gastroenterology inpatient service and general wards of Duke and V.A. Hospitals. Every term. Weight: 4 or 8. *Tyor, Garbutt, Mansbach, McLeod, Quarfordt, Killenberg, and Roche*

MED-218(C). Rational Basis for Practice of Gastroenterology. Topics will be selected which represent major hepatic and gastrointestinal diseases. The biological setting will be emphasized as the basis for diagnosis and management. Terms: Fall 1 and Spring 1. Weight: 2. *Tyor and gastroenterology staff*

MED-221(C). Metabolism and Endocrinology. A general course in which the whole patient is approached from an endocrine point of view. Clinical and laboratory diagnosis and titration of therapy are facilitated by the use of a standard data base and study of appropriate flow sheet parameters. The student participates in the evaluation and management of both inpatients and outpatients. Alternatives for eight credits include the V.A. consultation service, the Duke Staff and Clinical Research Unit Service, and the Duke Private Service Staff outpatient clinic and all endocrine conferences are attended on each service. A 4-credit option (four weeks) allows one student to choose Drs. Ellis, Johnson, Feinglos, or McPherson as the clinical preceptor. The student will care for private inpatients and both staff and private outpatients under the preceptor's guidance. This option must be scheduled by the student with the preceptor before registering for the course. Every term. Weight: 4 or 8. *Neelon, McPherson, Ellis, Eisenbarth, Allen, Feldman, Johnson, Drezner, Feinglos, and Burch*

MED-222(C). Introduction to Clinical Neurology. Overall view of clinical neurology for students planning careers other than internal medicine or neurology. Emphasis on clinical techniques in neurologic examination, approaches to neurologic diagnosis and anatomic, pathologic and physiologic basis for localization of

neurologic lesions. Common neurologic disturbances at bedside conferences. Includes neurology, neurosurgery, staff conferences, and patient presentation. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 2. *Roses and neurology staff*

MED-223(C). Clinical Clerkship in Neurology. A clerkship in clinical neurology emphasizing diagnosis and therapy of neurologic diseases. The students will participate in inpatient and outpatient workups, teaching conferences, and diagnostic studies. Includes MED-222 series and all activities scheduled for neurology residents. Opportunity for externship available. Every term. Weight: 4-8. *Roses and neurology staff*

MED-224(C). Allergy and Respiratory Diseases. Course provides training in clinical and laboratory aspects of allergic and respiratory illnesses. Rounds, seminars, and conferences are held throughout the week for instruction in allergy, clinical immunology, pulmonary function evaluation, pulmonary physiology, chest radiology, pulmonary pathology, and in clinical pulmonary medicine. Students will do their work on the Duke private pulmonary inpatient service, the Duke pulmonary consult service, or the V.A. pulmonary consult services. Every term. Weight: 4 or 8. *Crapo, Buckley, Davies, Kariman, Kylstra, MacIntyre, Piantaposi, Saltzman, Sieker, Thet, and Young*

MED-225(C). Outpatient Hematology-Oncology (Duke). On one half-day each week, the student will see and take part in the care of patients with hematological and oncological diseases in the outpatient setting. Diagnosis, long-term treatment, and supportive care of the patient will be stressed. Every term. Weight: 1. *Rosse*

MED-226(C). Outpatient Hematology-Oncology (Veterans Administration Medical Center). On one half-day each week, the student will see and take part in the care of patients with hematological and oncological diseases in the outpatient setting. Diagnosis, long-term treatment, and supportive care of the patient will be stressed. Every term. Weight: 1. *Logue*

MED-227(C). Rheumatic, Immunologic, and Genetic Diseases. The student acquires experience indepth in the recognition and care of patients with generalized connective tissue diseases, immunologic diseases, and metabolic arthropathies. The student evaluates patients on wards and in the clinic. Daily rounds with the staff extend the experience. Specialized laboratory and clinical techniques relating to immunologic and metabolic functions are learned. A comprehensive approach to the evaluation and treatment of patients with inflammatory immune deficiency and certain metabolic disorders is emphasized. May be taken for 4 units of credit with permission. Every term. Weight: 4 or 8. *Snyderman, Caldwell, Hirshfield, Barada, Haynes, Holmes, Kredich, McCarty, Rice, and Wyngaarden*

MED-229(C). Nephrology. A generalized course stressing the fundamentals of clinical nephrology and hypertension. The student participates fully in both inpatient and outpatient diagnosis and treatment. A broad exposure to consultative nephrology (acute and chronic renal failure, fluid and electrolyte management, problem hypertension, etc.) as well as to the care of patients with end-stage renal failure (hemo- and peritoneal dialysis, transplantation) is offered. Special emphasis is placed on renal physiology and pathophysiology, renin-angiotensin metabolism, renal histopathology, and the interpretation of urinalysis. Attendance at regularly scheduled renal biopsy, transplantation, and general teaching conferences is required. Every term. Weight: 4 or 8. *Dennis, Brazy, Clapp, Harris, Gunnells, Gutman, Stead, and Yarger*

MED-230(C). Clinical Hematology and Oncology (VA Hospital). This course provides a broad exposure to hematologic and oncologic disorders. As a

member of the section the student actively participates in the following: (1) hematology-oncology consultation service for the VA wards, (2) hematology outpatient clinics, (3) management of inpatients with specific hematologic disorders. The wide variety of disorders seen includes leukemias, lymphomas, anemias, bleeding disorders, gammopathies, etc. An opportunity is provided for the student to learn and perform the specialized clinical and laboratory techniques involved in the evaluation of these patients. Ample time is available for contact with the hematology staff and library research. Every term. Weight: 4 or 8. *Logue, Weinberg, Cohen, Stead, Crawford, Kurlander, and Blumfelder*

MED-231(C). Clinical Hematology and Oncology (Duke Hospital). Students are given a unique opportunity to participate actively in care and study of patients with wide variety of hematologic diseases, anemias, bleeding disorders, leukemias, lymphomas, oncology problems, etc. Systematic, quantitative clinical evaluation, and basic techniques of blood and marrow examination, serum and urine protein studies are emphasized. Every term. Weight: 8 (4 with permission of Dr. Rosse). *Rosse, Brenckman, Reichert, Kaufman, Silberman, Moore, Huang, Laszlo, Anderson, Fay, Cox, Tallos, Neidel, and Kaufman*

MED-232(C). Preventive Cardiology: Clinical Applications. The aim of this course is to introduce clinical application of the current knowledge in preventive cardiology. The course will consist of didactic sessions and clinical case illustration. Topics will include CAD risk-factor modification, use of new technologies in early diagnosis of CAD, and social cost of CAD, etc. Term: Spring 2. Weight: 1. *Kimm and guest speakers*

MED-235(C). Research Topics in Medicine. The student will develop a research project in concert with one of the faculty, or participate in a current research study which may range from basic laboratory investigations to clinical epidemiology, or an integrated program containing aspects of both laboratory experience and clinical study design. Every term. Weight: 4. *McKee, Neelon, and Feussner*

MED-236(C). Research Topics in Endocrinology and Metabolism. Research training and experience in the field of endocrinology and metabolism. This is arranged individually between the student and a specific member of the endocrine staff. Every term. Weight: 8. *Neelon, Feldman, Drezner, Eisenbarth, and staff*

MED-242(C). Clinical Cardiology. A comprehensive experience in clinical cardiology is provided to students by participation in patient care, consultations, and laboratory evaluation of patients with known or suspected cardiovascular disease. Lectures and small group teaching will include bedside physical diagnosis, normal and pathologic cardiovascular physiology, electrocardiography, echocardiography, vectorcardiography, and pharmacology. Students will be based primarily either at Duke or at the VA. Students should indicate a preference for their home base, but ultimate assignments will be made so that a proportionate number of students are assigned to each institution. At the VA, students spend four weeks on a consultative service, one week in the cath lab and three weeks on the CCU. At Duke, the students spend three weeks on the consult service, two weeks in the cath lab, two weeks on the CCU and one week in the Cardiac Diagnostics Unit. The cardiology patient simulator (HARVEY) will be used by all students both in individual and group sessions. All students will participate in the same core curriculum of lectures, held for the most part, between 10:00 A.M. and noon throughout the eight weeks. Every term. Weight: 8. (D): *Waugh, Chen, Grant, Greenfield, Kent, Kisslo, Kong, Orgain, Peter, Rosati, Stiles, and Wagner.* (VA): *Baker, Greenfield, Cobb, Morris, and Phillips*

MED-245(C). Coronary and Intensive Care Medicine. This is offered as an elective for the fourth year medical student who would like to spend time learning

coronary and intensive care medicine within the setting of a community hospital. Emphasis is on cardiovascular medicine but there is a broad range of intensive care experience included. The fourth year student will work on a team with a medical senior assistant resident and will share night call every fourth night as the primary contact for new admissions to the medical intensive care unit and coronary intensive care unit at Durham County General Hospital. Teaching sessions are held four times weekly with emphasis on clinical material. Every term. Weight: 4 or 8. *Wagner*

MED-250(C). Clinical Allergy-Immunology. The specialist in allergy-immunology relies heavily on the use of laboratory techniques as an aid to patient evaluation. This elective is designed to familiarize the student with the clinical uses of the allergy-immunology laboratory. The course is oriented toward clinical, important departures from normal immune function. Precepted experience is provided in the evaluation of patients with impaired host resistance, hypersensitivity, autoimmunity, heightened susceptibility to neoplasia, and other immune disorders. Participation in clinically applicable immunoserologic methods is a part of the required course work experience. Selected readings, including a critical awareness of the recent literature, are used to gain an understanding of specific clinical problems. Terms: Fall 1 or 2, Spring 1 and 2. Weight: 8. *C. E. Buckley*

MED-252(C). Physiology of Nephrology. This course is composed of lectures designed to provide insight into the pathophysiology of clinical fluid and electrolyte problems. An attempt is made to integrate established physiologic principles into an analysis of common clinical problems. It is the intent of this course to equip the student with sufficient general information to permit adaptation of fluid and electrolyte therapy to the great variety of specific patient-related problems which will be encountered as a house officer. Terms: Fall 2 and Spring 1. Weight: 2. *Clapp and Gutman*

MED-256(C). Emergency Room. This course is designed to give the student a broad exposure to the clinical problems which are encountered in the emergency room. The student sees patients in the emergency room in collaboration with a medical resident, and is involved in their diagnostic evaluation and management. Didactic sessions are held twice weekly with the students, at which time clinical topics relevant to emergency medicine are discussed. The course is full time for four or eight weeks. Each student works in conjunction with one team of residents, twenty-four hours on, then twenty-four hours off. Every term. Weight: 4 or 8. *Wyngaarden*

MED-260(C). Clinical Infectious Disease. This course will provide experience in the clinical and laboratory diagnosis of infectious diseases and their therapy. Emphasis will be placed on learning through active participation in infectious disease consultations, liaison with clinical microbiology, conferences, journal club, and library research. Drops cannot be accepted at less than one month's notice, unless the student finds a replacement. Adds will be accepted at any time, providing the course has not been filled. Every term. Weight: 4 or 8. *Durack, Gallis, Hamilton, Suydam Osterhout, Barry, Corey, Perfect, Klein, and Zwadyk*

MED-262(C). Diabetes Mellitus: A Camping Experience. Eagles Nest North Carolina Camp for Diabetic Children provides a two-week camping experience for over 200 children annually. Medical support is provided by medical, nursing, and physician associate students and dietetic interns, under University staff supervision. Each student is directly responsible for the management of one cabin of campers. The student participates in infirmity duty, prepares one of the daily staff seminars, and joins in the general camp activities. Room and board provided. Also offered in Nursing School. (Must be cleared in advance with Dr. Ellis, since students from other universities are also accepted.) Terms: June and August. Weight: 2. *Ellis, Eisenbarth, Morris, Delcher, and Skyler*

MED-264(C). Computer Aided Instruction in Clinical Neurology. The computer program simulates the patient-physician encounter in the practice of general medicine in which patients with common neurologic illnesses are seen. The purpose of the program is to teach the student the efficient and economical utilization of laboratory procedures, and the branching logic necessary in accurate neurological diagnosis. Terms: Fall 2, Spring 2. Weight: 2. *Heyman and Massey*

MED-266(C). Essentials of Rheumatic Disease. The purpose of this course is to give medical students the opportunity to review in the most concise and efficient manner the basic essentials of clinical rheumatic disease. The emphasis will be on clinical diagnosis and management. Term: Fall 1. Weight: 1. *Rice and Caldwell*

MED-268(C). Psychosocial Aspects of Medical Illness. Seminars and supervised clinical experiences on the medical wards and clinics will be used to provide the student with knowledge of basic principles and practical clinical skills relevant to determining the role of psychosocial factors in the etiology and course of physical disease in man. Also listed as PSC-268(C). Every term. Weight: 2. *Williams*

MED-281(C). Advanced General Medicine. The student is assigned to inpatient medical services at Duke or the Veterans Administration Medical Center, and participates actively in the workup and management of patients, under the supervision of the house staff. By special arrangement the student may function as a subintern at the VA Medical Center, and manage five to eight patients under the supervision of the ward resident. Every term. Weight: 8. *Wynngaarden and staff*

MED-400(C). Geriatric Medicine. This elective is offered by the interdepartmental faculty of the Division of Geriatric Medicine. The student will work with faculty, fellows, and housestaff in a number of settings involved in the care of the geriatric patient. These will include the Geriatric Evaluation and Treatment Clinic (Duke), Geriatric Evaluation Unit and Clinic (Veterans Administration Medical Center), geriatric consultation services (Veterans Administration Medical Center, Durham County General Hospital, and Duke), nursing home facilities, interactions with community services (Coordinating Council for Senior Citizens), home assessment, and others. Principles to be stressed will be biology and pathophysiology of aging; multiple clinical problems in the elderly; interdisciplinary team approach to evaluation, planning and treatment; goals of maximal functional achievement and independence for the elderly. The student will participate actively in the workup and management of patients in both inpatient and outpatient settings as well as become more familiar with the problems of the elderly in the community. Familiarity with the growing literature in geriatric medicine will be encouraged and the student will participate in seminars, lectures, and team meetings at the appropriate sites including the Duke Center for the Study of Aging. Every term. Weight: 4 or 8. *Cohen, Cohn, Crawford, Friedman, Harrell, Moore, Neish, Simpson, Sullivan, and Warshaw*

Microbiology and Immunology

James B. Duke Professor: Wolfgang K. Joklik, D. Phil. (Oxford, 1952), *Chairman*.

James B. Duke Professor: D. Bernard Amos, M.D. (Guy's Hospital, London, 1963).

Professors: Dani P. Bolghesi, Ph.D. (Duke, 1967); Rebecca H. Buckley, M.D. (North Carolina at Chapel Hill, 1958); Richard O. Burns, Ph.D. (Illinois, 1962); Eugene D. Day, Ph.D. (Delaware, 1952); Richard S. Metzgar, Ph.D. (Buffalo, 1959); Suydam Osterhout, M.D. (Duke, 1949), Ph.D. (Rockefeller Inst., 1959); Wendell F. Rosse, M.D. (Chicago, 1958); David W. Scott, Ph.D. (Yale, 1969); Ralph E. Smith, Ph.D. (Colorado, 1968); Ralph Synderman, M.D. (New York, Downstate Med. Ctr., 1965); Thomas C. Vanaman, Ph.D. (Duke, 1968); Frances E. Ward, Ph.D. (Brown, 1965); Robert W. Wheat, Ph.D. (Washington Univ., 1955); Catherine M. Wilfert, M.D. (Harvard, 1962); Hilda P. Willett, Ph.D. (Duke, 1949).

Adjunct Professors: James J. Burchall, Ph.D. (Illinois, 1963); Norman F. Weatherly, Ph.D. (Kansas, 1962).

Associate Professors: Deepak Bastia, Ph.D. (Chicago, 1971); Dani P. Bolognesi, Ph.D. (Duke, 1967); Peter Cresswell, Ph.D. (London, 1971); Jeffrey Dawson, Ph.D. (Case Western Reserve, 1969); David T. Durack, D.Phil. (Oxford, 1973); Stanley A. Gall, M.D. (Minnesota, 1962); Dolph Klein, Ph.D. (Rutgers, 1961); Thomas G. Mitchell, Ph.D. (Tulane, 1971); Harvey J. Sage, Ph.D. (Yale, 1958); Hilliard F. Seigler, M.D. (North Carolina at Chapel Hill, 1960); Peter Zwadyk, Jr., Ph.D. (Iowa, 1971).

Visiting Associate Professor: Susan A. Gerbi, Ph.D. (Yale, 1970).

Associate Medical Research Professor: Hillel S. Koren, Ph.D. (Freiburg and Max Planck Inst., 1971).

Assistant Professors: Dolph O. Adams, M.D. (Med. Coll. of Georgia, 1965); Ralph R. Bollinger, M.D. (Tulane, 1970), Ph.D. (Duke, 1977); Charles E. Buckley III, M.D. (Duke, 1954); John C. Cambier, Ph.D. (Iowa, 1975); Ronald B. Corley, Ph.D. (Duke, 1975); Sharyn Endow, Ph.D. (Yale, 1975); Harry A. Gallis, M.D. (Duke, 1967); Barton F. Haynes, M.D. (Baylor, 1973); Jack D. Keene, Ph.D. (Washington, 1974); David R. McClay, Jr. (North Carolina at Chapel Hill, 1971); David S. Pisetsky, Ph.D. (Albert Einstein, 1972), M.D. (Albert Einstein, 1973).

Visiting Assistant Professor: Kenneth E. Muse, Ph.D. (North Carolina State, 1970).

Assistant Medical Research Professors: Vickers Burdett, Ph.D. (Georgetown, 1973); Jeffery J. Collins, Ph.D. (Harvard, 1972); Deborah V. Dawson, Ph.D. (North Carolina at Chapel Hill, 1981); William J. Hubbard, Ph.D. (Iowa, 1973); Lawrence B. Lachman, Ph.D. (Boston, 1973); Sara E. Miller, Ph.D. (Georgia, 1972); Emily G. Reisner, Ph.D. (Case Western Reserve, 1969), Ph.D. (Duke, 1971); W. David Sedwick, Ph.D. (Pennsylvania, 1970); Stephen R. Turner, Ph.D. (Duke, 1971); Carol C. Wisnant, Ph.D. (Duke, 1975).

Adjunct Assistant Professors: Lynn P. Elwell, Ph.D. (Oregon, 1974); Lorraine Flaherty, Ph.D. (Cornell, 1973).

Associate: L. William Cashdollar, Ph.D. (West Virginia, 1978).

Medical Research Associates: Patricia J. Baker, Ph.D. (Illinois, 1976); Ann E. Berger, Ph.D. (Duke, 1978); Barry L. Dowell, Ph.D. (Tennessee, 1977); Enrique G. Estevez, Ph.D. (Miami, 1976); Donna D. Kostyu, Ph.D. (Duke, 1979); Susan Radka, Ph.D. (Pittsburgh, 1977); Kay H. Singer, Ph.D. (Duke, 1977); Susan Tonkongy, Ph.D. (Harvard, 1976); Vincent A. Varitek, Jr., Ph.D. (Duke, 1977); Alan C. Whitmore, Ph.D. (North Carolina at Chapel Hill, 1977); Larry L. Wright, Ph.D. (Georgia, 1975).

Lecturer: Alfred P. Sanfilippo, Ph.D. (Duke, 1975), M.D. (Duke, 1976).

Instructor: A. Proctor, M.S.

Research Associates: P. Andreotti, Ph.D.; A. Balber, Ph.D.; H. Charbanneau, Ph.D.; R. Chmelo, Ph.D.; T. Darrow, Ph.D.; G. Deng, Ph.D.; B. Gitter, Ph.D.; M. Golightly, Ph.D.; J. Gray, Ph.D.; S. Greenberg, M.D.; B. Grouix, Ph.D.; G. Hudson, Ph.D.; R. Klevit, Ph.D.; K. Leung, Ph.D.; P. Marino, Ph.D.; J. McKolanis, Ph.D.; J. Melzer, M.D.; C. Ohlander, Ph.D.; G. Palumbo, Ph.D.; R. Phipps, Ph.D.; C. Pickup, Ph.D.; M. Veigl, Ph.D.; M. Warzynski, Ph.D.; K. Weinhold, Ph.D.; L. Yates, Ph.D.

Required Courses

MIC-200—the core course for all freshman medical students—is given in the second semester of the first year. An intensive study is made of the common bacteria, viruses, fungi, and parasites which cause disease in man. The didactic portion of the course focuses on the nature and biological properties of microorganisms causing disease, the manner of their multiplication, and their interaction with the entire host as well as specific organs and cells. The role of the immune system and of specific chemotherapy on the host-parasite relationship are included.

The laboratory portion of the course is designed to acquaint students with the methods and procedures employed in bacteriological laboratories, to provide the basis for an understanding of cell-virus interactions and to demonstrate the nature of the more common pathogenic fungi and parasites. Clinical case histories are presented by the clinical staff to correlate this course with patient care.

MIC-201—a short core course in immunology for freshman medical students. The course includes a general introduction to the development of various special areas of immunology such as immunochemistry, immunoematology, and immunogenetics including transplantation and tumor immunology. The initial lectures describe the properties of antibodies, the characteristics of antigens, classes of reactive lymphocytes and accessory cells, the biology of substances released from lymphocytes (lymphokines) and the complement system. The course is enriched with clinical presentations and by discussion groups combined with practical demonstrations.

Electives

MIC-252(B). * General Virology and Viral Oncology. The first half of the course will be devoted to a discussion of the structure and replication of mammalian and bacterial viruses. The second half will deal specifically with tumor viruses, which will be discussed in terms of the virus-cell interaction, the relationship of virus infection to neoplasia, and the role of the immunological response to tumor virus infection. The viral oncology part of the course may be taken for half credit in term 4. In this case, the permission of the instructors is required. Terms: Spring 1 and 2. Weight: 4. *Joklik, Keene, Hayes, Bolognesi, Collins, Smith, and Bigner*

MIC-259(B). * Molecular Biology I. Protein and Membrane Structure/Function. Detailed concepts of the structure and function of proteins as enzymes and as structural elements of cellular substructures, including: protein primary structure and its determination, patterns of protein folding, mechanisms of enzyme catalysis and regulation, function and formation of multimeric protein assemblies, proteins and other constituents of biological membranes. Terms: Fall 1 and 2. Weight: 3. *Vanaman, Bell, Erickson, Rajagopalan, and J. Richardson*

MIC-268(B). * Molecular Biology II. Nucleic Acids. Consideration of structure and metabolism of nucleic acids in the context of their biological function in information transfer. Emphasis will be on the current research literature. Terms: Spring 1 and 2. Weight: 3. *Modrich, Burns, Bastia, and Steege*

MIC-269(B). * Advanced Cell Biology. An advanced course in cell biology with emphasis on current research literature, and featuring in-depth discussion of selected areas by staff engaged in research in these areas. The course covers membrane structure and physiology, the cytoskeleton, cell motility systems, chromosome mechanics, structure and function, and eukaryotic gene structure and control. Terms: Fall 1 and 2. Weight: 3. *Endow and staff*

MIC-291(B). * Basic Immunology. An intensive course in the biology of the immune system and the structure and function of its component parts. Major topics discussed are: structure, function, and specificity of immunoglobulins; immunoglobulin gene structure and expression; nature of antigens and haptenic determinants; anatomy of the lymphoid system; characteristics of primary and secondary immune responses; complement components and their activities; cellular interactions; biologic role of histocompatibility antigens; regulation of growth, expression, and function of lymphocytes by antigen-specific and idiotype-specific cells and their products. Terms: Fall 1 and 2. Weight: 4. *Corley and staff*

MIC-296(B). Contemporary Molecular Immunology. A detailed study at the molecular level of some of the latest developments in immunology. The subject matter, although variable and continually updated to keep it fresh, will be concerned with three general areas: (a) the molecular analysis of the cellular components and processes which underlie the biological behavior of the cells involved in immune phenomena; (b) the chemical and physical properties of antigens and antibodies and the physical-chemical analysis of antigen-antibody interaction; (c) recent methodological advances contributing to or resulting from a and b. Term: Spring 1. Weight: 3. *Day, Cresswell, and Sage*

MIC-301(B). Principles of Infectious Disease. A lecture and seminar course to familiarize students with the basic biologic concepts, the pathogenesis, and the clinical manifestations of infectious diseases caused by bacteria, viruses, fungi, rickettsia, and selected parasites. The host defenses to infectious agents including the acute inflammatory response and humoral and cellular immunity, and current and future trends in the development of vaccines and antimicrobial and antiviral agents will also be discussed. Terms: Fall 1 and 2. Weight: 6. *Wilfert, Lehrman, Smith, Gutman, Katz, Durack, Mitchell, and Frothingham*

MIC-306(B). Clinical Microbiology-Immunology. A bench-training course in methods used in clinical microbiology stressing isolation, characterization, and antibiotic susceptibility testing of clinically significant microorganisms. Course conducted in Duke microbiology division laboratories. Prerequisite: permission of instructor. Terms: Fall 2, Spring 1 and 2. Weight: 8. *Klein*

MIC-308(B). Clinical Microbiology-Immunology. A bench-training course in methods used in clinical microbiology stressing isolation and characterization of clinically significant microorganisms. Course conducted in the V.A. Hospital microbiology laboratory. Every term. Weight: 8. *Zwadyk*

MIC-325(B). * Medical Mycology. Comprehensive lecture and laboratory coverage of all the fungi pathogenic for humans. Practical aspects as well as future trends in the mycology, immunology, diagnosis, pathogenesis, and epidemiology of each mycotic agent will be explored. There will be several invited lecturers, each an internationally recognized scientist, discussing their particular areas of mycological expertise and current research. Term: month of July. Weight: 4. *Mitchell*

MIC-330(B). * Medical Immunology. A course designed to present the basic concepts of immunology as they relate to human disease. Emphasized will be tumor immunology, autoimmunity, neuroimmunology, immunohematology, and immunologic deficiency diseases. Case presentations when appropriate. Terms: Spring 1 and 2. Weight: 6. *Koren, Pisetsky, R. Buckley, Snyderman, and Rosse*

MIC-336(B). * Immunogenetics. Basic concepts in genetic transmission, recombination, regulation. Elementary population genetics. Antigens of tissues and organs, distribution, extraction, and chemistry. Phylogeny of iso-antigenic systems of man and animals. Tests for histocompatibility including lymphocyte interactions and reactivity. Change in antigenicity and immune responsiveness in carcinogenesis. Immunologic factors in pregnancy and in homotransplantation of organs. Terms: Fall 1 and 2. Weight: 2. *Amos and Ward*

MIC-337(B). * Immunobiology of the Macrophage. A comprehensive study of the mononuclear phagocytic system. Areas to be discussed include the regulation of the immune response by macrophages and their products, their functions in microbial infections and in tumor surveillance. Tissue distribution of monocytes and macrophages, and functional heterogeneity of macrophages. Terms: Fall 1 and 2. (Not offered 1982.) Weight: 2. *Koren, Adams, Weinberg, and Snyderman*

MIC-339(B). Diagnostic Microbiology and Infectious Disease. Introduction to the methods for the laboratory diagnosis of infectious disease and their clinical application. Basic biologic and clinical aspects will be correlated in a seminar-lecture format. Terms: every term except Fall 2 and Summer 1. Weight: 2. *Suydam Osterhout*

MIC-399(B). Preceptorship in Microbiology and Immunology. An individual reading and/or laboratory course in specialty areas supervised by an individual faculty member. Acceptance, nature of topic, and amount of credit by individual arrangement with proposed faculty member. Every term. Weight: 1-8 per 8 weeks. *Microbiology and immunology staff*

MIC-403(B). Investigative Problems in Disease Caused by Viruses, Mycoplasmas, Bacteria, and Fungi. Introduction to techniques for research with viruses, mycoplasmas, bacteria, and fungi; clinical experience with infectious diseases related to the investigative programs. The student will be involved in some aspect of laboratory research, and should consult with the investigator with whom work will be done prior to signing up for the course. Every term. Weight: 8. *Durack, Wilfert, Gutman, Hamilton, and Gallis*

MIC-405(B). Research in Immunoematology. The course is designed to provide the opportunity for students to select a project involving immunohe-matologic techniques and to pursue, through original research, the project conclu-sion. In particular, projects concerned with complement, red cell lysis, and red cell antigens will be stressed. Close supervision will be provided. Weekly seminars in immunoematology will be held. Library readings will be stressed. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 6-8. *Rosse*

MIC-411(B).^{*} Molecular and Cellular Bases of Development and Dif-ferentiation. Emphasis is placed on the biochemistry of the cell surface as the basis of cell recognition, control of cell cycle and overall tissue organization. An analysis of protein nucleic acid interactions in chromosome structure and function are considered in light of newer concepts of transcriptional and translational control. Studies also include nuclear cytoplasmic interactions as well as hormone induction of differentiation and development. The course is designed to study the phenomena of development and differentiation and has been organized on a multidisciplinary level. The course is part of the lecture series of the development and differentiation study program, DDS-201(B). Terms: Fall 1 and 2. Weight: 3-4. *McCarty, Counce, Kaufman, and Padilla*

Obstetrics and Gynecology

Professor: Charles B. Hammond, M.D. (Duke, 1961), *Chairman*.

Professors: Arthur C. Christakos, M.D. (Med. Coll. of South Carolina, 1955); William T. Creasman, M.D. (Baylor, 1966); Stanley A. Gall, M.D. (Minnesota, 1962); Allen P. Killam, M.D. (Texas, 1960); Roy T. Parker, M.D. (Med. Coll. of Virginia, 1944); Charles H. Peete, Jr., M.D. (Harvard, 1947); David W. Schomberg, Ph.D. (Purdue, 1965).

Clinical Professor: Leonard E. Laufe, M.D. (Louisville, 1949).

Associate Professors: W. Allen Addison, M.D. (Duke, 1960); Gail B. Hill, Ph.D. (Duke, 1966); Lee Tyrey, Ph.D. (Illinois, 1969).

Associate Clinical Professor: Kenneth A. Podger, M.D. (Duke, 1941).

Assistant Professors: Nels C. Anderson, Ph.D. (Purdue, 1964); Jane E. Brazey, M.D. (Washington Univ., 1972); Daniel L. Clarke-Pearson, M.D. (Case, 1975); Kenneth Fortier, M.D. (Dartmouth, 1976); Arnold S. Grandis, M.D. (Duke, 1974); Arthur F. Haney, M.D. (Arizona, 1972); Frederick Jelovsek, M.D. (Michigan, 1963); Charles H. Livengood III, M.D. (Duke, 1976); John F. Steege, M.D. (Yale, 1972); Anna L. Stout, Ph.D. (South Carolina, 1980).

Assistant Clinical Professors: James L. Allen, M.D. (Emory, 1965); John V. Arey, M.D. (Harvard, 1946); John R. Ashe, Jr., M.D. (Duke, 1948); Rudy W. Barker, M.D. (North Carolina at Chapel Hill, 1967); David B. Crosland, M.D. (North Carolina at Chapel Hill, 1958); Yancey G. Culton, Jr., M.D. (Duke, 1956); Richard L. Lassiter, M.D. (North Carolina at Chapel Hill, 1965); Donald T. Moore, M.D., (Meharry, 1958); William A. Nebal, M.D., (North Carolina at Chapel Hill, 1962); Phillip H. Pearce, M.D. (Duke, 1960); Steven M. Scott, M.D. (Indiana, 1974); Robert K. Yowell, M.D. (Duke, 1961).

Associates: David E. Barnard, M.D. (Vanderbilt, 1974); James F. Holman, M.D. (Arkansas, 1970); Steve N. London, M.D. (Texas, 1978); Steven J. Ory, M.D. (Baylor, 1976); Phillip Potter, M.D. (Michigan, 1976); Ellen B. Smith, M.D. (North Carolina at Chapel Hill, 1977); Camille J. Wahbeh, M.D. (Lebanon, 1980).

Clinical Associates: Jerry L. Danford, M.D. (Duke, 1967); Michael D. Fried, M.D. (New York Univ. of Med., 1971); Carl A. Furr, Jr., M.D. (North Carolina at Chapel Hill, 1958); Arned L. Hinshaw, M.D. (Duke, 1964); Clayton J. Jones, M.D. (Tennessee, 1952); William R. Lambeth, M.D. (Bowman Gray, 1974); E. Frank Shavender, M.D. (North Carolina at Chapel Hill, 1968); Joseph A. Stephens, M.D. (Pittsburgh, 1952); Thomas A. Stokes, Jr., M.D. (Duke, 1955); Allen H. Van Dyke, M.D. (Bowman Gray, 1971); Gayle S. Vest, M.D. (Minnesota, 1974).

Research Associates: M. Anne Browne, A.B.; Sarah Hainline, M.D.; Louise A. Kaufmann, B.A.; Larry Kodack, B.A.; Jeffrey May, Ph.D.

Required Course

In Introduction to Clinical Medicine the first-year student receives instruction in the fundamentals of obstetric and gynecologic history and pelvic examinations.

OBG-205—required of all second-year students—consists of nine weeks in general obstetrics and gynecology. Students attend lectures, work daily in the general and special outpatient clinics, and are assigned patients on the obstetric

and gynecologic wards. Students share in patient care, teaching exercises, and in daily tutorial sessions with the faculty. Clinical conferences, a gynecologic-pathology conference, endocrine conferences, and correlative seminars and lectures are included.

Electives

OBG-210(C). Gynecologic Cancer. A survey of malignancy of the reproductive system. The didactic portion of the course is supplemented by presentations of patients currently in therapy on the wards and in the Gynecologic Cancer Clinic. Every term. Weight: 4 or 8. *Creasman, Weed, Parker, Clarke-Pearson, Clayton, Barnard, and Smith*

OBG-212(C). Tutorial in Epidemiologic Principles in Obstetrics-Gynecology. Tutorial designed to present basic principles of epidemiology and biostatistics in obstetrics and gynecology. Also to assist the student to interpret data and to aid experimental design. Appropriate for public health applications in obstetrics and gynecology. Every term. Weight: 1. *Berger and Gary*

OBG-213(C). Preparation for Practice, Cape Fear Valley Hospital, Fayetteville Area Health Education Center. This is a unique opportunity to receive both didactic exposure and clinical experience in obstetrics and gynecology in Cape Fear Valley Hospital, a large community hospital in Fayetteville, North Carolina, where almost 4,000 patients are delivered each year. The student will actively participate in the care of patients in the labor and delivery rooms, assist at surgery, and render postoperative care. This is a community hospital experience rather heavily weighted in clinical obstetrics. Students will be exposed to a large volume of clinic opportunities. Two senior residents from Duke rotate through Cape Fear Valley Hospital. The student will be directly supervised by Dr. David Miller (full-time Duke faculty at Cape Fear) and Dr. Ed Garber, in addition to Duke obstetrics and gynecology residents. Every term. Weight: 4. *Jelousek, Miller, Garber, and staff of Cape Fear Valley Hospital*

OBG-229(C). Endocrinology Seminar. Sessions with discussion of interesting clinical problems and related clinical and basic research in gynecologic endocrinology. Every term. Weight: 1. *Haney, Wiebe, Hammond, Schomberg, Tyrey, and fellows on Endocrine Division*

OBG-231(C). Clinical Reproductive Endocrinology. Course for students who desire additional basic and clinical instruction in examination, diagnosis, and treatment of obstetric and gynecologic patients with endocrinopathy and infertility. Course consists of basic instruction in neuroendocrine and endocrine mechanisms correlated with examination and treatment of patients both in the Endocrinology Outpatient Clinic and in the hospital. Every term. Weight: 4. *Haney, Wiebe, Hammond, Schomberg, Tyrey, and fellows on Endocrine Division*

OBG-239(C). Perinatal Medicine. A study of the relationship of clinical factors during pregnancy, labor, delivery, and the first month of life. Emphasis will be placed on abnormal conditions of pregnancy as related to the infant, prenatal pathological conditions adversely afflicting the fetus and newborn, and early management of the infant. Current problems in maternal-fetal relationships will be outlined. The clinical rotation will consist of half time on the high-risk obstetric service and half time on the nursery service. (Duke North, ICN, or Duke South nurseries.) See also PED 239 and PED 225. Every term. Weight: 8. Must contact Gross or Gall prior to registration. *Gross and Gall*

OBG-243(C). Sex Education. This course is designed to prepare health professionals for dealing with situations involving sex education and counseling. A series of fourteen undergraduate lectures, given as part of the undergraduate



course, Zoology 198.6, "Human Sex and Sexuality," will survey biological, psychological, sociocultural, and ethical aspects of human sexuality. Additional training sessions, specifically for medical students, will deal with the design, organization, and implementation of educational and counseling programs. The final eight weeks of the course will be spent gaining practical experience. Projects may be of the student's design, approved by the committee, or the student may participate in one of the ongoing projects of the committee such as teaching the seventh grade curriculum in the public schools, writing curricula for other grade levels. Must contact Dr. Steege prior to registration. Terms: Spring 1 and 2. Weight: 3. *Steege, Kaplan, Parker, Katz, Christakos, and Shirley Osterhout*

OBG-245(C). Office Gynecology. For students preparing for general practice, medicine, pediatrics, and surgery. Outpatient clinic and emergency room diagnosis and patient care are taught. Every term. Weight: 4 or 8. *Parker and staff*

OBG-247(C). Clinical Obstetrics. For students preparing for general practice and medicine or pediatrics. Antepartum, intrapartum and postpartum patient care are stressed and practical experience in the delivery room is provided at an intern level. Every term. Weight: 4 or 8. *Gall, Killam, Grandis, and fellows on obstetrical service*

OBG-249(C). Clinical Gynecology. For students preparing for general practice, surgery, and urology. Preoperative diagnosis and preparation and postoperative care are stressed. In addition, minor operative procedures are taught and students assume the responsibilities of an intern. Every term. Weight: 4 or 8. *Peete, Addison, Christakos, Livengood, Fortier, and staff*

OBG-250(C). Psychosomatic Gynecology. For students in obstetrics and gynecology, family practice, and internal medicine. This course will emphasize

clinical experience in the diagnosis and treatment of chronic pain, as well as the management of other psychosomatic and psychophysiologic problems in gynecologic practice. Clinical research may be undertaken by arrangement. Must contact Dr. Steege prior to registration. Every term. Weight: 1-3. *Steege, Stout, and staff*

OBG-253(C). Preparation for Practice, Cabarrus Memorial Hospital, Concord, North Carolina. This is an opportunity to receive both didactic exposure and clinical exposure in obstetrics and gynecology in the community hospital. The student will be expected to function as an intern and will participate actively in the care of the patients in the labor and delivery area, assist at surgery, and render postpartum and postoperative care. This is a community hospital experience rather heavily weighted in clinical obstetrics. The student will be exposed to a large volume of clinical material. The practitioners in the community are all board-certified obstetricians and gynecologists and are interested in student teaching. A Duke faculty person will provide additional guidance by visits once per week. This elective can be taken for four weeks for 4 units or eight weeks for 8 units. The student will be housed in quarters available for them. Every term. Weight: 4, 6, or 8. *Clarke-Pearson, Ashe, and staff of the Cabarrus Memorial Hospital*

Ophthalmology

Professor: Robert Machemer, M.D. (Freiburg, Germany, 1959), *Chairman.*

Professors: W. Banks Anderson, Jr. M.D. (Harvard, 1956); Gordon K. Klintworth, M.D. (Univ. of Witwatersrand, 1957), Ph.D. (Univ. of Witwatersrand, 1966); Maurice B. Landers III, M.D. (Michigan, 1963); Joseph A. C. Wadsworth, M.D. (Duke, 1939); Myron L. Wolbarsht, Ph.D. (Johns Hopkins, 1958).

Associate Professors: Arthur C. Chandler, Jr., M.D. (Duke, 1959); M. Bruce Shields, M.D. (Oklahoma, 1966).

Assistant Professors: Michael L. Cobo, M.D. (Harvard, 1975); Gary N. Foulkes, M.D. (Columbia, 1970); John A. Jarrell, M.D. (Vanderbilt, 1952); Brooks W. McCuen II, M.D. (Columbia, 1974).

Clinical Professors: Samuel D. McPherson, Jr., M.D. (Johns Hopkins, 1943); Henry G. Wagner (Johns Hopkins, 1953).

Assistant Clinical Professors: John W. Cline, M.D. (North Carolina at Chapel Hill, 1966); Robert D. Dawson, M.D. (Meharry, 1943); Edward M. Hedgepeth, M.D. (North Carolina at Chapel Hill, 1962); Thomas C. Kerns, M.D. (Duke, 1950); Judy H. Seaber, B.A. (Emory, 1962); Charles F. Sydnor, M.D. (Virginia, 1969).

Clinical Associates: Dorothy Bell, M.D. (North Carolina at Chapel Hill, 1980); Joseph M. Corless, M.D. (Duke, 1974); J. Thomas Foster, M.D. (Duke, 1958); William R. Harris, M.D. (North Carolina at Chapel Hill, 1956); Edward K. Isbey, Jr., M.D. (Wayne, 1955); John H. Killian, M.D. (Bowman Gray, 1967); Martin J. Kreshon, M.D. (Marquette, 1954); W. Hampton Lefler, M.D. (Bowman Gray, 1963); Edward E. Moore, M.D. (Harvard, 1942); Lawrence Moore, M.D. (Duke, 1963); Harold E. Shaw, Jr., M.D. (Med. Univ. of South Carolina, 1973); Larry Turner, M.D. (Duke, 1944).

Research Associate: William A. Harris (East Carolina, 1967).

Electives

OPH-210(C). Medical Ophthalmology. The ophthalmic signs and symptoms of systemic disease are presented in a lecture series. Oriented for those students interested primarily in pediatrics, internal medicine, or ophthalmology. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 1. *Shields and Foulks*

OPH-211(C). Neuro-Ophthalmology. Experience is provided in application of ophthalmic diagnostic technique toward the diagnosis of central nervous system and related ocular diseases. Clinical case and research review is included. Special instrument utilization is emphasized. Permission of instructor is required. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 1 or 2. *Anderson and Sydnor*

OPH-212(C). General Ophthalmology. A clinical preceptorship in which the student will participate and observe in the regular house staff activities, conferences, lectures, patient care, and treatment including surgery. Emphasis on the use of specialized ophthalmic apparatus is emphasized. Every term. Weight: 3-8. *Chandler and Shields*

OPH-213(C). Ophthalmic Pathology. The student will review all ophthalmic pathology specimens submitted weekly and any pertinent permanent specimens, and will aid in presentation of cases at weekly ophthalmic pathology conferences. Every term. Weight: 1. *Klintworth*

OPH-214(C). Investigative Ophthalmology. The student is assigned a project relating to basic ophthalmologic problems. Technical assistance, sufficient equipment and laboratory animals are supplied for the completion of the project. The student is expected to attend lectures scheduled for the house staff. Every term. Weight: 4-8. *Landers, Wolbarsht, and Anderson*

OPH-215(C). Ocular Diseases in Children. The study of ocular disease in children includes muscular imbalances, congenital disorders, and neoplastic diseases to acquaint the student with a special pediatric and ophthalmologic phase. Every term. Weight: 1. *Sydnor*

Pathology

Professor: Robert B. Jennings, M.D. (Northwestern, 1950), *Chairman*.

Professors: Dolph O. Adams, M.D. (Med. Coll. of Georgia, 1965); Ph.D. (North Carolina at Chapel Hill, 1972); Darell D. Bigner, M.D. (Duke, 1965), Ph.D. (Duke, 1971); Edward H. Bossen, M.D. (Duke, 1965); William D. Bradford, M.D. (Western Reserve, 1958); Bernard F. Fetter, M.D. (Duke, 1944); Donald B. Hackel, M.D. (Harvard, 1946); William W. Johnston, M.D. (Duke, 1959); Gordon K. Klintworth, M.D. (Univ. of Witwatersrand, 1957), Ph.D. (Univ. of Witwatersrand, South Africa, 1966); John A. Koepke, M.D. (Wisconsin, 1956); Philip C. Pratt, M.D. (Johns Hopkins, 1944); Kenneth A. Schneider, M.D. (Northwestern, 1959); Joachim R. Sommer, M.D. (Munich, 1951); F. Stephen Vogel, (Western Reserve, 1944); Benjamin Wittels, M.D. (Minnesota, 1952).

Adjunct Professor: Paul Nettesheim, M.D., D.M.S. (Bonn, West Germany, 1959).

Associate Professors: Peter C. Burger, M.D. (Northwestern, 1966); Jane G. Elchlepp, M.D. (Chicago, 1955), Ph.D. (Iowa, 1948); Doyle G. Graham, M.D. (Duke, 1966); Kenneth McCarty, Jr., M.D. (Duke, 1972), Ph.D. (Duke, 1973); Salvatore Pizzo, M.D. (Duke, 1972), Ph.D. (Duke, 1973); Keith A. Reimer, M.D. (Northwestern, 1972); John D. Shelburne, M.D. (Duke, 1972); Frances King Widmann, M.D. (Case Western Reserve, 1960); Peter Zwadyk, Jr., Ph.D. (Iowa, 1971).

Adjunct Associate Professors: Jacob S. Hanker, Ph.D. (Maryland, 1969); John A. Moore, D.V.M. (Michigan State, 1963); James A. Swenberg, D.V.M. (Minnesota, 1966), Ph.D. (Ohio, 1970).

Assistant Professors: Sandra H. Bigner, M.D. (Tennessee, 1971); Michael M. Borowitz, M.D., Ph.D. (Duke, 1977); Byron P. Coker, M.D., Ph.D. (Duke, 1971); Raymond E. Ideker, M.D. (Tennessee, 1974), Ph.D. (Tennessee, 1972); George Michalopoulos, M.D. (Athens, 1969), Ph.D. (Wisconsin, 1977); Beverly Myers, M.D. (Duke, 1977); Victor L. Roggli, M.D. (Baylor, 1976); Alfred Sanfilippo, Ph.D. (Duke, 1975), M.D. (Duke, 1976); Frank A. Sedor, Ph.D. (Florida, 1971); Marcus Simpson, M.D. (North Carolina at Chapel Hill, 1972); Arthur R. Tatum, M.D. (Duke, 1977), Ph.D. (Duke, 1976); John Toffaletti, Ph.D. (North Carolina at Chapel Hill, 1977); Brett H. Woodard, M.D. (Tulane, 1974).

Assistant Clinical Professors: Jane Gaede, M.D. (Duke, 1966); Robin T. Vollmer, M.D. (Duke, 1967).

Assistant Medical Research Professors: Carol W. Lewis, Ph.D. (North Carolina at Chapel Hill, 1972); Eileen Mikat, Ph.D. (Duke, 1979).

Adjunct Assistant Professors: Arnold R. Brody, Ph.D. (Colorado, 1969); Donald F. Calbreath, Ph.D. (Ohio, 1968); Jack A. Dean, Ph.D. (Arizona, 1972); Ralph C. McCoy, M.D. (Emory, 1967).

Associates: Patricia Ruth Ashton, A.B. (Goucher, 1963); Kenneth R. Broda, Ph.D. (Duke, 1977); J. E. Phillip Pickett, H.T.; Margaret C. Schmidt, M.A. (Louisville, 1969).

Research Associates: Mary LuSan Hill; Lieselotte Kemper.

Required Course

PTH-200—the core course in pathology—is given during the second term of the first year. Fundamentals of pathology are presented by correlating gross and microscopic material to illustrate the structural changes in disease. Lectures dealing with broad concepts of disease processes are presented by senior faculty, and conferences with small groups of students are held under the guidance of staff members. Etiology and pathogenesis of disease, as well as the experimental approach are emphasized for the purpose of correlation with clinical disease. In addition to group work, conferences are scheduled to discuss problems derived from autopsies. Students are required to collaborate in postmortem studies and present cases in clinical-pathologic conferences under the direction of the staff.

Electives

PTH-223(B). Autopsy Pathology. The course is intended to introduce students to the autopsy as an investigative tool; anatomic-clinical correlation is emphasized. Students work directly with one or more members of the Pathology Department. They will first assist at autopsies and then perform autopsies under supervision. They will work up these cases with particular attention to correlations with clinical and experimental medicine, prepare the final autopsy reports on them, and will work essentially at the level of a house officer. Students will be expected to present their findings at staff conferences. If the course is oversubscribed, the students will be chosen by lot. Every term. Weight: 8. *Adams and staff*

PTH-225(B).* Cardiovascular Pathology. Cardiovascular disease processes will be studied, reviewing anatomic, embryologic, and physiologic features, and utilizing case material and gross specimens. Clinicopathologic correlation will be stressed. Term: Fall 1. Weight: 2. *Hackel, Reimer, and Ideker*

PTH-231(B).* Ophthalmic Pathology. This course is designed for students with an interest in ophthalmic diseases and particularly for those planning a career in pathology or ophthalmology, and will consist of lectures, seminars, and laboratory sessions. The normal anatomy and embryology of the eye will be reviewed, and the various reactions of the eye to injury will be studied in gross and microscopic specimens. The more common diseases will be considered in detail. Term: Fall 1. Weight: 3. *Klintworth*

PTH-237(B). Surgical Pathology. This course is designed for the student who wishes more experience in the study of disease. Although the course is entitled *Surgical Pathology*, this does not imply interest solely in the individual oriented to surgery. Problems in dermatology, gynecology, orthopaedics, general surgery, internal medicine, and other specialties will be considered. The program of study will consist of lectures, demonstrations, and laboratory work. Microscope required (limited number available on loan). Term: Spring 2. Weight: 4. *Fetter*

PTH-241(B).* The Pathologic Basis for Clinical Medicine. Disease processes will be studied in terms of organ systems, with the intention of enabling students to crystallize the basic processes studied in Pathology 200. Clinicopathologic correlation will be stressed, utilizing gross and microscopic examples of disease processes, case studies, lectures, and demonstrations. This is a survey course and does not treat any one subject in great depth. Term: Fall 1. Weight: 4. *Hackel and staff*

PTH-281(B). Cytopathology Preceptorship. This course consists of a full-time rotation by the student in the diagnostic cytopathology laboratories. By working with the laboratory staff, the student will explore in detail the role played by exfoliative cytopathology in the diagnosis of disease. Although not a requirement, the student will be encouraged to pursue special research projects. Every term. Weight: 8. *Johnston, Bossen, Bigner, and staff*

PTH-342(B). Special Topics in Pathology. Special problems in pathology will be studied with a member of the senior staff; the subject matter will be individually arranged. Permission of instructor required. Every term. Weight: 1-16. *Jennings and staff*

PTH-346(B).* Subcellular and Molecular Pathology. This course is designed for students wishing to broaden their knowledge of cellular structure and cellular pathology. A series of lectures and seminars will be presented on the alterations in cellular structure and associated function that accompany cell injury. Ultrastructural changes in selected human diseases will be discussed in detail with emphasis on diagnosis and pathogenesis. Terms: Fall 1 and 2. Weight: 2. *Jennings, Shelburne, and Sommer*

PTH-348(B). Practical Surgical Pathology. This course will be in the form of an apprenticeship in which the student will work closely with the resident in the actual preparation and diagnosis of tissue changes. Microscope required (limited number available on loan). Every term. Weight: 8. *Rossen and staff*

PTH-353(B).* Neuropathology. A view of neuropathology that emphasizes clinicopathologic correlation. Term: Fall 1. Weight: 3. *Vogel and staff*

PTH-359(B).* Fundamentals of Electron Microscopy. Emphasis will be placed on the theory and application of electron microscopy to ultrastructural pathology. The methods relating to electron microscopy, as well as X-ray microanalysis and ion microscopy, will be considered. Laboratory experience will be included. Terms: Fall 1 and 2. Weight: 3. *Shelburne and Sommer*

PTH-362(B).* Pathology of the Kidney. This course is a comprehensive study of pathological, immunological, and clinical features of the various types of glomerulonephritis, nephrotic syndrome, and pyelonephritis, as well as of metabolic, congenital, and neoplastic renal disorders. Lectures will be supplemented with gross and microscopic specimens, demonstrations, clinico-pathological discussions and student seminars. Term: Fall 2. Weight: 3. *Crocker, Sanfilippo, and Jennings*

PTH-364(B). Skeletal Pathology. Special problems in skeletal pathology will be dealt with beginning with a discussion of the development of connective tissue. Special emphasis on bone tumors, metabolic diseases, and traumatic problems will be considered. Term: Spring 2. Weight: 2. *Harrelson*

PTH-366(B).* Pulmonary Pathology and Pathophysiology. Emphasis will be on pulmonary pathology and pathophysiology of infectious, metabolic, environmental, and neoplastic diseases, and certain diseases of unknown etiology (e.g., sarcoid, alveolar proteinosis, etc.). Term: Fall 2. Weight: 3. *Pratt*

PTH-368(B). Seminar in Neonatal and Pediatric Pathology. This is a seminar course covering specific topics in developmental anatomy and major pathologic processes of the brain, lung, gastrointestinal, and urinary tracts. Emphasis will be on gross, microscopic pathology, and clinicopathologic correlation. These students will assume responsibility for presentations of material in individual seminars. Designed for students entering pathology and clinical pediatrics. Term: Spring 1. Weight: 2. *Bradford*

PTH-371(B). The Laboratory Basis for Clinical Medicine. This course will emphasize evaluation and interpretation of laboratory data relative to pathophysiologic processes. Development of judgment and selectivity in utilizing laboratory tests will be taught. Course will consist of lectures and conferences. Clinicopathologic correlation will be stressed by detailed case studies of specific patients. Term: Spring 2. Weight: 2. *Gaede, Widmann, Pratt, and Zwadyk*

PTH-372(B). Environmental Diseases. The course features guest lecturers and student presentations to cover examples of disease produced by technological exploitation of the earth and "life study." Subjects include population, respiration-air and ocean, and examples of diseases due to asbestos, lead, mercury, hydrocarbons, carcinogens, organic dusts, DDT, cigarette smoke, etc. Term: Spring 1. Weight: 2. *Pratt and Lynn*

PTH-373(B). Diagnostic Immunopathology. The course reviews diagnostic and laboratory procedures used in evaluating immunologic diseases; especially autoimmune, infectious, immunodeficiency, immunoproliferative, and hypersensitivity disorders. Emphasis is placed on the theoretical and practical aspects of testing procedures and their proper interpretation. Term: Summer 2. Weight: 2. *Sanfilippo, Zwadyk, Buckley, and Snyderman*

PTH-374(B). * Pulmonary Structure and Function Seminar. Current and exemplar pathological material on lungs, including gross, histologic, and electron microscopic data, is correlated with *in vitro* function and clinical features; physiological measurements; and roentgenographic findings. The structural features of the types of reaction of lung cells to injury are interpreted against this background. Such demonstration material is correlated by lectures. Every term. Weight: 1. Pratt, Lynn, and Roggli

PTH-378(B). Seminars in Hematology. This is a systematic survey of the pathophysiology and morphology of human hematological diseases. Each student will survey the literature on several topics and prepare an oral presentation which will be critically discussed by the group. Opportunity for experience in blood, marrow, and lymph node analysis will be available. Term: Spring 1. Weight: 2. Wittels

PTH-380(B). Surgical Pathology with Emphasis on Electron Microscopy. This course will be in the form of an apprenticeship in which the student will become engaged in the actual preparation and diagnosis of tissue changes using both light and electron microscopy. The student will, of necessity, learn how to operate the electron microscope. Every term except Spring 1. Weight: 8. Shelburne and Vollmer

PTH-385(B). * Interdisciplinary Seminar in Cancer Research. Emphasis will be on cellular biology of the cancer cell. The instructors will present topics on aspects of cancer research and will attempt to correlate them with the biologic and clinical behavior of specific forms of neoplasia. Terms: Spring 1 and 2. Weight: 4. Michalopoulos and Falletta

Pediatrics

Wilburt C. Davison Professor: Samuel L. Katz, M.D. (Harvard, 1952), *Chairman*.

Professors: James B. Sidbury Professor Rebecca H. Buckley, M.D. (North Carolina at Chapel Hill, 1958); Thomas E. Frothingham, M.D. (Harvard, 1951); Herman Grossman, M.D. (Columbia, 1953); Stuart Handwerker, M.D. (Maryland, 1964); Madison S. Spach, M.D. (Duke, 1954); Alexander Spock, M.D. (Maryland, 1955); Catherine M. Wilfert, M.D. (Harvard, 1962).

Associate Professors: Page A. W. Anderson, M.D. (Duke, 1963); Roger C. Barr, Ph.D. (Duke, 1968); John M. Falletta, M.D. (Kansas, 1966); Howard Filston, M.D. (Western Reserve, 1962); Seymour Grufferman, M.D. (New York at Syracuse, 1964); Laura T. Gutman, M.D. (Stanford, 1963); Donald Kirks, M.D. (Washington Univ., 1968); David R. Merten, M.D. (Cincinnati, 1956); Stephen G. Osofsky, M.D. (Northwestern, 1969); Charles R. Roe, M.D. (Duke, 1964); Stanley J. Rothman, M.D. (McGill, 1965).

Assistant Professors: Brenda E. Armstrong, M.D. (St. Louis, 1974); William D. Bradford, M.D. (Western Reserve, 1958); Jane E. Brazy, M.D. (Washington Univ., 1972); Rosalind Coleman, M.D. (Western Reserve, 1969); Peter C. English, M.D., Ph.D. (Duke, 1975); John A. Fowler, M.D. (Bowman Gray, 1946); Stephen Gehlbach, M.D. (Western Reserve, 1968); Steven Gross, M.D. (Maryland, 1973); Harold J. Harris, M.D. (Long Island Coll. of Med., Brooklyn, 1949); Andrew Hodson, M.D. (Bristol, England, 1970); J. David Jones, M.D. (Duke, 1954); Sue Y. S. Kimm, M.D. (Yale, 1964); Thomas R. Kinney, M.D. (Duke, 1970); Deborah W. Kredich, M.D. (Michigan, 1962); Darrell V. Lewis, M.D. (Minnesota, 1969); Mary Ann Morris, M.D. (Arkansas, 1972); Shirley K. Osterhout, M.D. (Duke, 1957); M. Henderson Rourke, Jr., M.D. (Pennsylvania, 1963); Robert J. Ruderman, M.D. (Rochester, 1968); Hugh Sampson, M.D. (New York at Buffalo, 1975) Gerald A. Serwer, M.D. (Duke, 1971); Richard J. Sterba, M.D. (Ohio, 1974); Robert J. Thompson, Jr., Ph.D. (North Dakota, 1971); Kwan-Sa You, Ph.D. (Brandeis, 1971).

Associates: Ann R. Cantor-Evelyn, M.D. (California at San Francisco, 1971); Nancy Friedman, M.D. (Med. Coll. of Virginia, 1975); David L. Fuller, M.D. (Washington Univ., 1973); Sandra Lehrman, M.D. (Brown, 1976); Jerry Oakes, M.D. (Duke, 1972); Mary E. Vernon, M.D. (Columbia, 1976); Gordon Worley, M.D. (Harvard, 1973).

Emeritus: Jay M. Arena, M.D. (Duke, 1932); William Cleland, M.D. (Howard, 1933); Susan C. Dees, M.D. (Johns Hopkins, 1934); Jerome S. Harris, M.D. (Harvard, 1933); Angus M. McBryde, M.D. (Pennsylvania, 1928); Bailey D. Webb, M.D. (Duke, 1946), Ph.D. (North Carolina at Chapel Hill, 1941).

Clinical Professor: William J. A. DeMaria, M.D. (Duke, 1948).

Associate Clinical Professors: William L. London, M.D. (North Carolina at Chapel Hill, 1955); George M. Lyon, Jr., M.D. (Duke, 1961); A. W. Renuart III, M.D. (Duke, 1955); Evelyn Schmidt, M.D. (Duke, 1951).



Assistant Clinical Professors: Clarence Bailey, M.D. (North Carolina at Chapel Hill, 1955); James S. Hall, M.D. (Duke, 1957); Alvin H. Hartness, M.D. (Bowman Gray, 1965); Richard S. Kelly, Jr., M.D. (Jefferson, 1945); Howard H. Loughlin, M.D. (Pennsylvania, 1970); Thomas M. McCutchen, M.D. (Vanderbilt, 1963); Nelle S. Moseley, M.D. (Med. Coll. of Georgia, 1957); Charles B. Neal, M.D. (Duke, 1955); John C. Pollard, M.D. (Virginia, 1968); William C. Powell, M.D. (Bowman Gray, 1952); Jimmie L. Rhyne, M.D. (Maryland, 1948); A. Douglas Rice, M.D. (Duke, 1951); James B. Rouse, M.D. (Duke, 1965); Robert J. Senior, M.D. (Jefferson, 1955); Frank S. Shaw, M.D. (Pennsylvania, 1959); Charles I. Sheaffer, M.D. (Western Reserve, 1958); S. Winston Singleton, M.B. (Manchester, England, 1952); Fred R. Stowe, M.D. (North Carolina at Chapel Hill, 1958); W. Samuel Yancy, M.D. (Duke, 1965).

Clinical Associates: Lillis Altshuller, M.D. (Cincinnati, 1960); Joanne Barton, M.Sc. (Kentucky, 1974); Mary Jane Burns, M.S.W. (North Carolina at Chapel Hill, 1974); Meade R. Christian, Jr., M.D. (Western Reserve, 1967); Dennis A. Clements, M.D. (Rochester, 1973); William G. Conley, M.D. (Med. Coll. of Virginia, 1960); Faith B. Crosby, M.D. (South Carolina, 1977); W. LaDell Douglas, M.D. (Georgetown, 1974); Jean Findlay, M.B. (Aberdeen Univ. Med. Sch. Scotland, 1970); Larry C. Harris, M.D. (Duke, 1977); Rufus McP. Herring, Jr., M.D. (Bowman Gray, 1969); Jennifer L. Lail, M.D. (Kentucky, 1978); Pierre Le Master, M.D. (Florida, 1971); Brandy McDaniel, M.S.W. (North Carolina at Chapel Hill, 1979); Larry Mumford, M.D. (North Carolina at Chapel Hill, 1967); Janice Stratton, M.D. (Tulane, 1961); Joseph Whatley (Duke, 1958); Jerry W. Wiley, M.D. (Duke, 1974).

Research Associates: Dianne Y. Bell, Ph.D. (North Carolina State Univ., 1976); William Colmers, Ph.D. (Regensburg, 1980); Edith Markoff, Ph.D. (California at Santa Cruz, 1980).

Assistant Medical Research Professors: Patricia Baker, Ph.D. (Illinois, 1975); James A. Green, Ph.D. (North Carolina at Chapel Hill, 1979); Raymond A. Sturner, M.D. (Georgetown, 1968).

Required Course

PED-205—the basic course in pediatrics for all students—is an eight-week clerkship in the second year. Its principal aim is to provide an exposure to the field of child health. The student has a varying series of experiences which should give a grasp of the concepts that underlie the discipline. Goals should be to acquire familiarity and competence with the basic tools of information-gathering—the history, physical examination, and laboratory data—and to develop an approach to the integration of this material for the solution of problems of health and illness in infancy, childhood, and adolescence. This should be accomplished with continuing reference to the basic principles of pathophysiology encountered in the first year courses.

Those patients to whom the student is assigned will provide the focus for case studies. In addition to the careful history and physical examination which must be recorded, the student is expected to organize an appropriate differential diagnosis

and to seek and read pertinent reference material relevant to each patient. The student should learn to present each case verbally in an organized and succinct fashion, to follow the patient's progress, and to interpret all studies which are performed. The student is expected to learn from a number of sources: standard textbooks and journals, current publications and conferences, and also from people—house staff, faculty, nurses, parents, and all others with whom contact is made in the clinical setting.

Objectives should also include an understanding of the roles played in pediatrics by other members of the health care team, both in the ambulatory and hospital settings. Patient care may include nurse, social worker, recreation therapist, psychologist, physiotherapist, dietitian, and/or others. The eight weeks will be divided to include time into several of the following settings: (a) Duke outpatient clinics and emergency room, (b) Duke inpatient, (c) Durham County General Hospital and (d) Duke nurseries.

Electives

PED-210(C). Advanced General Pediatrics. The senior student negotiates the schedule before the beginning of the course. In the general appointment and walk-in clinics, the student may become acquainted with most of the common, primary care pediatric problems as well as causes for referral. Beyond the walls of the hospital, there are opportunities for the student to participate in child health activities in the community in collaboration with a variety of child-serving professionals, including practicing pediatricians, nurse practitioners, public health nurses, teachers, social workers, and mental health workers. Students are encouraged to select an area for in-depth examination, active participation, and the preparation of a report according to their interests, backgrounds, and anticipated career goals. Examples of available areas are behavior-development, rheumatology, child health, and many others. Every term except Summer 2. Weight: up to 8. *General pediatric staff; Dr. Kredich and staff*

PED-211(C). Pediatric Infectious Diseases. This course will provide experience in the clinical and laboratory diagnosis of infectious diseases and in their therapy. The student works closely with the infectious disease fellow and participates actively in evaluation of patients. There is opportunity to gain experience in a laboratory setting (bacteriology, virology). Every term. Weight: 4 or 8. *Wilfert, Frothingham, Gutman, Lehrman, and Katz*

PED-215(C). Endocrine Disorders in Children. Students see clinical endocrine patients by participating in the Pediatric Endocrine Clinics. Stress is placed upon application of hormone assay to the diagnosis of endocrine disorders in childhood. Every term. Weight: 4 or 8. *Handwerker, Morris, and Friedman*

PED-216(C). Interdisciplinary Seminar in Clinical Oncology. Students will be presented with a comprehensive review of clinical oncology, including the epidemiology, pathogenesis, clinical-pathologic correlations, treatment, and prognosis for most human cancers. Relationships between basic science aspects and clinical medicine will be emphasized. Term: Spring 2. Weight: 2. *Falletta and Michalopolous*

PED-217(C). Pediatric Hematology and Oncology. Includes all aspects of clinical and laboratory pediatric hematology, as well as the diagnostic evaluation, care, and treatment of patients with malignant diseases. Emphasis will be placed on fundamental concepts. There will be daily ward rounds, three weekly clinics, conferences and seminars, as well as assigned reading. Students will be encouraged to engage in some individual clinical or laboratory project during the period of the course. Every term. Weight: 4 or 8. *Falletta and Kinney*

PED-221(C). Poison Control. Primarily a seminar course with one two-hour conference per week scheduled for student discussion on assigned topics. The

student may participate in clinical functions of the center and if desired may be on call for the treatment of these cases in the emergency room or the ward. This is a student-oriented teaching program and individual projects on the subject may also be carried out. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 2. *Shirley Osterhout*

PED-225(C). Neonatology. Students will have patient care responsibilities and experiences in the nursery service, either Duke North ICN or Duke South nurseries. The course consists of participation in direct patient care under the supervision of the faculty and housestaff. Emphasis is placed on the initiation of parent-child relationships, the assessment of and stabilization of stressed neonates, and the management of neonatal illnesses. Every term. Weight: 4. *Gross, Brumley, and Brazey*

PED-227(C). Behavioral Aspects of Pediatrics. The purpose of this course is to provide training and experience in recognizing and managing the emotional reactions of children and their families to medical and/or psychiatric problems. An integral part of this course will be clinical interviews with the child, parents, and selected family members to determine the impact of medical and psychiatric problems on the development and psychosocial functioning of the child and the total family. Emphasis will be placed on developing skills in child and family interviewing, crisis intervention, diagnostic evaluations, and appropriate treatment and referral plans. (See also PSC-227.) Every term except Summer 2. Weight: 2-6. *Jones, Yancy, Burns, McDaniel, Purcell, Joyce, and Quinn-Pierce*

PED-231(C). Clinical Pediatric Cardiology. Provides an intensive learning experience in clinical diagnosis and management of childhood heart disease. Emphasis is placed on the preoperative and postoperative management of children with operable heart disease as well as upon the management of children with nonoperable heart disease. Finally, the student is exposed to pediatric acute care medicine and modalities available to maintain cardiovascular function in the extremely ill child. Scope: history, physical examination, and special diagnostic techniques (electrocardiography, phonocardiography, echocardiography, cardiac catheterization, and cineangiography). All students are required to meet with one of the instructors prior to enrolling in this course. Every term. Weight: 8, 4 (only with special permission of instructors). *Serwer, Armstrong, and Sterba*

PED-232(C). Preventive Cardiology: Clinical Applications. The aim of this course is to introduce clinical application of the current knowledge in preventive cardiology. The course will consist of didactic sessions and clinical case illustration. Topics will include CAD risk factor modification, use of new technologies in early diagnosis of CAD and social cost of CAD, etc. Term: Spring 2. Weight: 1. *Kimm and guest speakers*

PED-233(C). Allergy, Clinical Immunology, and Pulmonary Diseases. Clinical evaluation and practice in use and methods of diagnosis and treatment of allergic disorders, cystic fibrosis, and other pulmonary diseases; immunologic deficiency states; and autoimmune disorders. Scope: history, physical examination, skin and pulmonary function tests, allergen preparation, sweat testing, and a variety of clinical immunologic tests. Every term. Weight: 4 or 8. *R. Buckley, S. Dees, Sampson, Rourke, and A. Spock*

PED-239(C). Perinatal Medicine. A study of the relationship of clinical factors during pregnancy, labor, delivery, and the first month of life. Emphasis will be placed on abnormal conditions of pregnancy as related to the infant, prenatal pathological conditions adversely affecting the fetus and newborn, and early management of the infant. Current problems in maternal-fetal relationships will be outlined. The clinical rotation will consist of half time on the high-risk obstetrics service and half on the nursery service (Duke North ICN or Duke South

nurseries). (See also OBG-239(C) and PED-225(C).) Every term. Weight: 8. *Perinatal medicine staff*

PED-241(C). Pediatric Nephrology. Course is designed to provide experience in diagnosis, interpretations of laboratory tests, natural history, and treatment of acute and chronic disorders of the kidney in children. Students are also exposed to the management of fluid and electrolyte disorders in infants and children. Every term. Weight: 4 or 8. *Osofsky*

PED-243(C). Adolescent Medicine. Students will see adolescents in youth clinic on Monday afternoons. Emphasis to be placed on the behavioral and developmental aspects of adolescence, drug abuse, and the pregnant teenager. Tutorial and supervisory time to discuss specific patients and pertinent literature will be arranged. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 2. *Yancy*

PED-281(C). Pediatric Neurology. Students will examine both hospitalized and ambulatory patients with neurological disorders. Emphasis is placed on the neurological history, examination, and the investigation and management techniques of nervous system disorders of childhood. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 8. *Rothman and Lewis*

Pharmacology

Professors: Norman Kirshner, Ph.D. (Pennsylvania State, 1952), *Chairman*; Frederick Bernheim, Ph.D. (Cambridge University, 1928), *J. B. Duke Professor Emeritus*.

Professors: Everett H. Ellinwood, M.D. (North Carolina at Chapel Hill, 1959); Leon Golberg, D.Sc. (Univ. of Witwatersrand, 1946); Leon Lack, Ph.D. (Columbia, 1953); Daniel B. Menzel, Ph.D. (California at Berkeley, 1962); Elliott Mills, Ph.D. (Columbia, 1964); Athos Ottolenghi, M.D. (Univ. of Pavia, 1946); Saul M. Schanberg, M.D. (Yale, 1964), Ph.D. (Yale, 1961); David G. Shand, M.D. (St. Bartholomew's Hospital Med. Coll., London, 1964); Theodore Slotkin, Ph.D. (Rochester, 1970); Pelham Wilder, Ph.D. (Harvard, 1950).

Associate Professors: Mohamed Abou-Donia, Ph.D. (California at Berkeley, 1966); James Norman Davis, M.D. (Cornell, 1965); Laura E. Gutman, M.D. (Stanford, 1962); Gerald M. Rosen, Ph.D. (Clarkson, 1969); Harold C. Strauss, M.D., C.M. (McGill Univ., 1964); Markku Linnoila, M.D. (Univ. of Helsinki, 1972), Ph.D. (Univ. of Helsinki, 1974).

Assistant Professors: Thorir D. Bjornsson, M.D. (Univ. of Iceland, 1971); P. Michael Conn, Ph.D. (Baylor, 1976); James C. Fuchs, M.D. (Johns Hopkins, 1964); Cynthia M. Kuhn, Ph.D. (Duke, 1975); James O. McNamara, M.D. (Michigan, 1968); Julian Victor Nadler, Ph.D. (Yale, 1972); A. Richard Whorton, Ph.D. (Vanderbilt, 1975).

Medical Research Associate Professor: Wilkie A. Wilson, Ph.D. (Duke, 1971).

Medical Research Assistant Professors: Jorge Bartolomé, Ph.D. (Univ. of Chile, 1978); Elmer J. Rauckman, Ph.D. (Duke, 1976); Brij Shrivastav, Ph.D. (Univ. of Western Ontario, 1968); Christian Tschanz, M.D. (Univ. of Basle, 1972); Stephen P. Wilson, Ph.D. (Duke, 1976).

Adjunct Professors: Pedro Cuatrecasas, M.D. (Washington Univ., 1962); Gertrude Elion, D.Sc. (George Washington, 1969); Robert A. Neal, Ph.D. (Vanderbilt, 1963); Charles A. Nichol, Ph.D. (Wisconsin, 1949); Vladimir Petrow, D.Sc. (Univ. of London, 1947).

Adjunct Associate Professor: Humberto Viveros, M.D. (Univ. of Chile, 1962).

Adjunct Assistant Professors: Joann L. Data, M.D. (Washington Univ. 1970); Robert E. Desjardins, M.D. (Loyola, 1971).

Required Course

PHR-200. Pharmacology: Mode of Action of Drugs. A basic course in pharmacology describing the action of drugs in terms of biochemical and physiological processes, and the rationale for their use in clinical therapy. Four lectures, one clinical correlation and one conference per week. Term: spring. 4 units. *Staff*

Electives

PHR-219(B). Tutorial in Pharmacology. Guided independent study of original literature and/or laboratory experience. Open to all students; required of those

electing a preclinical base in the Department of Pharmacology. Every term. Weight: 1-8. *Staff*

PHR-270(B).* Also listed as PHS-270(B). Terms: Fall 1 and 2. Weight: 3. *Moore, Kirshner, Robertson, Corless, and Marchase*

PHR-301(B). Physical Chemistry of Aqueous Solutions. An intensive study of the major topics of aqueous solutions including stoichiometry, chemical equilibrium, elementary thermodynamics, experimental kinetics, and electrochemistry. Practical problem sets and problem review sessions will represent a major portion of the course. Term: Summer 1. Weight: 3. *Wilder*

PHR-330(B). Pharmacological Basis of Clinical Medicine. This course consists of a detailed analysis of the mechanism of action and rationale for use of pharmacologic agents in disease states. Terms: Fall 1 and 2. Weight: 4. *Shand and staff*

PHR-331(B).* Laboratory Methods in Pharmacology. Tutorial laboratory training will be given in various fields of pharmacology, including neuropharmacology, cardiovascular pharmacology, biochemical pharmacology, and biophysical pharmacology. Certain special laboratory sessions will be conducted at the Wellcome Research Laboratories, Research Triangle Park. Every term. Weight: 6. *Staff*

PHR-333(B).* Principles of Pharmacology and Toxicology 1. Drug absorption, distribution, excretion and metabolism, basic and clinical pharmacokinetics, Hansch correlation of structure and activity, stereo-chemistry, and drug action. Terms: Fall 1 and 2. Not offered in 1980. Weight: 3. *Slotkin and staff*

PHR-334(B).* Principles of Pharmacology and Toxicology 2. Drug receptor theory and its practical applications, pharmacokinetics and pharmacodynamics of toxic substances, mechanisms of toxicity, adverse drug reactions and interactions. Terms: Spring 1 and 2. Not offered in 1980. Weight: 3. *Rosen and staff*

PHR-335(B). Cellular Pharmacology. Relation of receptor stimulation, intracellular messengers, and target cell responses. Receptor theory including mathematical development and modeling. Target cell desensitization and supersensitization as well as qualitative evaluation of receptors by biochemical, physiological, and pharmacological criteria is included. Course emphasizes experimental applications in autonomic nervous system and endocrine target cells. Terms: Fall 1 and 2 alternate years beginning 1980. Weight: 3. *Conn, Davis, and Rosen*

PHR-354(B).* Mammalian Toxicology. Principles of toxicology as related to man. Emphasis will be placed on the molecular basis for toxicity of chemical and physical agents. Subjects will include the limitations and assumptions of extrapolation to man from animal toxicity, safety of drugs and food additives, toxicity of pesticides and their hazard to man, and the role of scientists in societal decisions on the use of man-made chemical and physical agents. Terms: Spring 1 and 2 alternate years beginning 1981. Weight: 3. *Abou-Donia and staff*

PHR-360(B). Neuropharmacology. Seminar-lecture course emphasizing neuro-transmitter mechanisms and the mechanism of action of drugs used to modify nervous system function. Material will be drawn from the recent literature. Terms: Fall 1 and 2 alternate years beginning 1981. Weight: 3. *Nadler*

PHR-364(B). Neurotoxicology. Adverse effects of drugs and toxicants on the central and peripheral nervous system. Target sites, pathophysiology, and factors affecting toxicity. Experimental methods for detection and screening of neurotoxic chemicals. Screening and assessment of neurotoxicity in people. Terms: Spring 1 and 2 alternate years beginning in 1982. Weight: 3. *Abou-Donia*

Physiology

Professor: Edward A. Johnson, M.D. (Univ. of Sheffield, 1953), *Chairman*.

Professors: Jacob J. Blum, Ph.D. (Chicago, 1952); Irving T. Diamond, Ph.D. (Chicago, 1953); John W. Gutknecht, Ph.D. (North Carolina at Chapel Hill, 1963); Frans F. Jöbsis, Ph.D. (Michigan, 1958); Peter K. Lauf, M.D. (Univ. of Freiburg, 1960); Melvyn Lieberman, Ph.D. (State Univ. of New York, 1964); John W. Moore, Ph.D. (Virginia, 1954); Jacqueline A. Reynolds, Ph.D. (Washington Univ., 1963); John V. Salzano, Ph.D. (Iowa, 1956); Knut Schmidt-Nielsen, Dr.Phil. (Copenhagen, 1952); George G. Somjen, M.D. (New Zealand, 1961); Joachim R. Sommer, M.D. (Munich, 1951); Madison S. Spach, M.D. (Duke, 1954); Charles Tanford, Ph.D. (Princeton, 1947).

Associate Professors: Nels C. Anderson, Ph.D. (Purdue, 1964); Peter B. Bennett, Ph.D. (Univ. of Southampton, 1964); Robert P. Erickson, Ph.D. (Brown, 1958); Joseph C. Greenfield, M.D. (Emory, 1956); J. A. Kylstra, M.D. (Leiden, Holland, 1952); Thomas J. McManus, M.D. (Boston, 1955); Lazaro J. Mandel, Ph.D. (Pennsylvania, 1969); Elliott Mills, Ph.D. (Columbia, 1964); George M. Padilla, Ph.D. (California at Los Angeles, 1960); Fidel Ramon, M.D. (Mexico, 1964), Ph.D. (Duke, 1974); Michael K. Reedy, M.D. (Washington, 1973); David W. Schomberg, Ph.D. (Purdue, 1965); Sidney Simon, Ph.D. (Northwestern, 1973); Myron Wolbarsht, Ph.D. (Johns Hopkins, 1958); William E. Yarger, M.D. (Baylor, 1971).

Assistant Professors: Page A. W. Anderson, M.D. (Duke, 1963); Enrico M. Camporesi, M.D. (Univ. of Milan, Italy, 1970); Vincent W. Dennis, M.D. (Georgetown, 1966); Stuart Handwerger, M.D. (Maryland, 1964); R. Scott Jones, M.D. (Texas, 1961); J. Scott Rankin, M.D. (Tennessee, 1969); Judith L. Swain, M.D. (California at San Diego, 1974); Andrew G. Wallace, M.D. (Duke, 1959); Andrew Wechsler, M.D. (State Univ. of New York, 1964).

Assistant Medical Research Professors: Gilbert Baumann, Dr.Sc. (Swiss Federal Inst. of Tech., 1968); Ping Beall, Ph.D. (Tulane, 1967); Marcia Goldner, Ph.D. (Duke, 1972); Michael Hines, Ph.D. (Chicago, 1975); Peter G. Kaufman, Ph.D. (Chicago, 1971); Andres Manring, Ph.D. (Ohio, 1970); Russell T. Snow, Ph.D. (Duke, 1971); Avis Sylvia, Ph.D. (North Carolina at Chapel Hill, 1973); Jose Torre-Bueno, Ph.D. (Rockefeller, 1975).

Adjunct Associate Professor: James M. Schooler, Jr., Ph.D. (Wisconsin, 1964).

Adjunct Assistant Professors: Thomas W. Anderson, Ph.D. (Duke, 1971); Reginald D. Carter, Ph.D. (Bowman Gray, 1970); Michael J. Galvin, Jr., Ph.D. (Georgia, 1975); Russell Horres, Ph.D. (Duke, 1975); J. Mailen Kootsey, Ph.D. (Brown, 1966); Philip A. McHale, Ph.D. (Duke, 1975).

Required Course

PHS-200—Introduction to the Physiology of Man. Lectures and conferences on cell and organ physiology. Human and medical aspects are stressed in clinical conferences. The neurophysiology section is given in a three-week period following the end of the semester. Required of first-year medical students; limited to other students whose training requires knowledge of human physiology as it pertains to medicine. Five lectures; one conference, small group discussions. Prerequisite: consent of course leader. Term: fall. 5 units. *Padilla and staff*

Electives

PHS-217(B).^{*} Membrane Transport. The physical-chemical basis of ion transport in water and thin lipid films, the solution and application of transport equations, the chemical composition and ultrastructure of biological membranes, the characteristics of nonelectrolyte, anion, and cation transport in red blood cells including passive and active carrier transport, the integration of these processes to transport molecules across epithelial tissues, and the use of noise measurements to investigate possible mechanisms of voltage dependent conductances. Terms: Fall 1 and 2. Weight: 3. *Mandel and staff*

PHS-219(B). Tutorial in Physiology. Guided independent study of original literature and/or laboratory experience. Open to all students; required of those electing a preclinical base in the Department of Physiology. This tutorial must not be considered as replacement for any other course. It should provide an in-depth experience in an area related to any course or interest rather than being of a remedial nature. Every term. Weight: 3 or 6. *Lauf and staff*

PHS-221(B). The Heart and Peripheral Circulation in Health and Disease. Physiology at the organ systems level, including cardiac electrophysiology and

mechanics, arrhythmias, ventricular-atrial function, congenital disordered function, coronary blood flow, and cardiovascular control mechanisms. Offered for graduate school credit. Designed to be most valuable to the medical student as part of a coordinated program of study such as the Cardiovascular Study Program. Terms: Fall 1 and 2. Weight: 2. *Anderson, Greenfield, Spach, Strauss, and Johnson*

PHS-222(B). Respiratory System in Health and Disease. Primary emphasis is on the physiology of respiration. Topics covered include pulmonary mechanics; gas exchange; ventilation-perfusion relationships; central and peripheral regulation of ventilation; and respiratory responses to exercise, altitude, and hyperbaric environments. Terms: Spring 1 and 2. Weight: 2. *Salzano and Kylstra*

PHS-260(B). * Physiology of Cell Growth and Differentiation in Health and Disease. Lectures and discussions based on an extensive literature survey on the regulation of growth and the cell cycle of eukaryotic cells. Emphasis is on the physiological mechanisms which underly cellular proliferation, cell renewal, and the functionality of subcellular organelles in health and disease. Terms: Spring 1 and 2. Weight: 3. *Padilla and Jokoi*

PHS-269(B). * Advanced Cell Biology. Structural and functional organization of cells and their components with emphasis on current research problems and prospects. Terms: Fall 1 and 2. Weight: 3. *Endow and staff*

PHS-270(B). * Neurobiology. Interdisciplinary approach to neuronal function at the cellular and molecular levels. Topics will include: subcellular structural organization, physiology and pharmacology of excitable membranes, impulse generation and conduction, neurotransmitters, proteins, pre- and postsynaptic organization and function. Terms: Fall 1 and 2. Weight: 3. *J. W. Moore, Kirshner, Robertson, Corless, and Marchase*

PHS-272(B). * Physiology of the Central Nervous System. Topics include: The central processing of sensory information; motor control, ions, and electric activity in the central nervous system; pathologic changes of function. In part lectures, in part seminar format (reading of original research articles; student presentations). Terms: Spring 1 and 2. Weight: 2. *Somjen*

PHS-301(B). * Oxygen and Physiological Function. The interrelations between oxidative metabolism and cell and organ function will be treated. The control systems for oxygen utilization and delivery will be emphasized. Organ function and dysfunction in hypoxia and oligemia will be discussed in terms of cellular events. Terms: Fall 1 and 2. Weight: 3. *Jöbsis, Mandel, Snow, and Sylvia*

PHS-320(B). Gastrointestinal Physiology. In this course the normal physiology, mechanisms of control, and transport characteristics of the human gastrointestinal tract and its associated glands (salivary, pancreas, liver) are presented in a series of lectures, problems, and demonstrations. The mechanisms of secretion and reabsorption are treated at a cellular level. Term: Spring 1. Weight: 2. *Jones, Anderson, Mandel, and Akwari*

PHS-321(B). * Renal Physiology. The composition and size of body fluid compartments and the regulation of the constituents of the plasma by the kidney is presented by lectures. Measurements of renal function including renal blood flow, tubular reabsorption and secretion, and acid-base regulation are discussed together with the theory of counter current exchange, ion transport in the kidney and hormonal control of renal function. Term: Spring 2. Weight: 2. *Dennis, Brazy, Harris, and Mandel*

PHS-372(B). * Research in Physiology. Laboratory investigation in various areas of physiology. Every term. Weight: 2-16. *Lauf and staff*

PHS-383(B). * Physiological Instrumentation. Electronic methods of measurement of physiological variables. The operational amplifier is used as the active

building block in appropriate feedback circuits containing only passive elements to make a wide range of linear instruments including analog computers. Digital logic and computing elements are also developed. Terms: Spring 1 and 2. Weight: 3 per 16 weeks. *Moore and staff*

PHS-401(B).* **Metabolic Physiology.** The control of gluconeogenesis, protein degradation, the storage and mobilization of glycogen and of lipids will be examined both at cellular level (e.g., metabolite compartmentation, futile cycling, enzyme modification) and in terms of interactions between tissues such as liver, kidney, and muscle. Strategies for metabolic adaptation to exercise, cold environment, starvation, obesity, and birth will be discussed. Terms: Fall 1 and 2. Weight: 3. *Blum*

PHS-411(B). **Molecular and Cellular Bases of Differentiation.** Emphasis is placed on the biochemistry of the cell surface as the basis of cell recognition,



control of cell cycle, and overall tissue organization. An analysis of protein nucleic acid interactions in chromosome structure and function are considered in light of new concepts of transcriptional and translational control. Studies also include nuclear cytoplasmic interactions as well as hormone induction of differentiation and development. The course is designed to study the phenomena of development and differentiation and has been organized on a multidisciplinary level. The course is part of the lecture series of development and differentiation study program, DDS-201(B). Terms: Fall 1 and 2. Weight: 3-4. *Padilla, McCarty, Counce, and Kaufman*

PHS-416(B). * Biophysics and Excitable Membranes. Advanced quantitative approach to bioelectric membrane phenomena. Topics include the cable properties of axons, voltage clamping theory and techniques, the ionic mechanisms of excitation, mechanisms, models of membranes and neurons, and the pharmacology of excitable membranes. Terms: Spring 1 and 2. Weight: 3. *Moore and staff*

PHS-418(B). * Reproductive Biology. An in-depth study of male and female reproductive processes including hypothalamic, pituitary, and gonadal control mechanisms as well as the physiology of pregnancy and parturition. Lectures by guest clinical faculty will emphasize the interface between basic science and clinical aspects. The lecture material in each section of the course is followed by seminar presentations which will contribute to ANA/PHS-424, a corequisite for the course. Also listed as ANA-418(B)*. Terms: Spring 1 and 2. Weight: 2. *Anderson, Schomberg, and Tyrey*

PHS-424(B). Reproductive Biology. Selected topics in reproductive biology will be chosen for in-depth reading and analysis in the seminar format. The seminar is to be taken as a corequisite with ANA/PHS 418. (Also listed as Anatomy 424). Terms: Spring 1 and 2. Weight: 1. *Anderson, Schomberg, and Tyrey*

Psychiatry

Professor: H. Keith H. Brodie, M.D. (Columbia, 1965), *Chairman*.

DIVISION OF BIOLOGICAL PSYCHIATRY

Professor: William P. Wilson, M.D. (Duke, 1947), *Head of Division*.

Professors: H. Keith H. Brodie, M.D. (Columbia, 1965); Everett H. Ellinwood, Jr., M.D. (North Carolina at Chapel Hill, 1959); C. William Erwin, M.D. (Texas, 1960); Robert L. Green, Jr., M.D. (Hahnemann, 1946); William K. Zung, M.D. (Texas, 1961).

Clinical Professor: Richard J. Wyatt, M.D. (Johns Hopkins, 1964).

Associate Professors: Jonathan Davidson, M.D. (Univ. Coll., London, 1976); Veli Markku Linnoila, M.D., Ph.D. (Helsinki, 1972).

Adjunct Associate Professor: Jau-Shyon Hong, Ph.D. (Kansas, 1973).

Assistant Professor: Richard Weiner, M.D., Ph.D. (Duke, 1973).

Assistant Medical Research Professor: Clinton D. Kilts, Ph.D. (Michigan, 1979).

Clinical Associate: George Dougherty, M.D. (Stanford, 1976).

Research Associate: June Van Bruggen, M.D. (Duke, 1970).

DIVISION OF CHILD AND ADOLESCENT PSYCHIATRY

Professor: John A. Fowler, M.D. (Bowman Gray, 1946), *Head of Division*.

Visiting Research Professor: Robert Coles, M.D. (Columbia, 1954).

Associate Professors: Harold J. Harris, M.D. (Long Island Med. Coll., 1949); J. David Jones, M.D. (Duke, 1954); Charles R. Keith, M.D. (Harvard, 1961).

Assistant Professors: Marcelino Amaya, M.D. (Univ. Nacional Autonoma de Mexico, 1954); William B. Anderson, M.D. (Minnesota, 1948).

Assistant Clinical Professors: Cesar Guajardo, M.D. (Univ. de Nuevo Leon, Mexico, 1961); W. Sam Yancy, M.D. (Duke, 1961).

Associate: David L. Fuller, M.D. (Washington Univ., 1973).

Clinical Associates: Thomas C. Cornwall, M.D. (Northwestern, 1970); Lucy T. Davis, Ed.D. (Columbia, 1955); Barbara H. Denny, M.S.W. (North Carolina at Chapel Hill, 1975); Muki Fairchild,

A.C.S.W. (North Carolina at Chapel Hill, 1976); Nancy J. Livingstone, M.D. (Duke, 1972); William Mackey, M.D. (Tennessee, 1969); Daphne Rosenblitt, M.D. (Duke, 1974); Donald L. Rosenblitt, M.D. (Duke, 1973); Jean G. Spaulding, M.D. (Duke, 1972).

Instructors: Deborah Hilliard, M.D. (North Carolina Central, 1977); Alice F. Long, M.A. (Chicago, 1953).

Clinical Instructor: Etta Leathers, M.E. (North Carolina Central, 1974).

DIVISION OF SOCIAL AND COMMUNITY PSYCHIATRY

Associate Professor: Daniel G. Blazer, M.D. (Vanderbilt, 1969), *Head of Division*.

Professors: Kurt Back, Ph.D. (Massachusetts Inst. of Tech., 1949); George L. Maddox, Ph.D. (Michigan, 1956); Frederick T. Melges, M.D. (Columbia, 1961); Erdman B. Palmore, Ph.D. (Columbia, 1959).

Associate Professors: James H. Carter, M.D. (Howard, 1966); Linda K. George, Ph.D. (Duke, 1975); Jacquelyne J. Jackson, Ph.D. (Ohio, 1960); Charles E. Llewellyn, Jr., M.D. (Med. Coll. of Virginia, 1946).

Assistant Professors: Atwood Gaines, Ph.D. (California at Berkeley, 1978); James O. Hoover, M.D. (Iowa, 1966); David Larson, M.D. (Temple, 1973); Kenneth Rockwell, M.D. (Duke, 1961).

Assistant Clinical Professors: Soong Lee, M.D. (Seoul, 1963); Nicholas Stratas, M.D. (Toronto, 1957); Khalil Tanos, M.D. (American Univ., Beirut, 1972); Ronnie Swift, M.D. (North Carolina at Chapel Hill, 1975).

Associate: Jane Clark Moorman, M.S.W. (Tulane, 1971).

Clinical Associate: Sally Johnson, M.D. (Jefferson, 1976).

Clinical Instructor: Lesley Braasch, M.D. (New York, 1970).

Instructors: James W. Osberg, M.D. (Tufts, 1948); Frantz Hershey, M.D. (Virginia, 1974); Robert Rollins, M.D. (Duke, 1956); N. P. Zarzar, M.D. (American Univ. of Beirut, 1956).

Research Associates: Gerda Fillenbaum, Ph.D., (London, 1966); Richard Landerman, Ph.D. (Duke, 1978); Margaret Pennybacker, M.A. (North Carolina at Greensboro, 1978); Kathleen Jordan, M.A. (Duke, 1977).

DIVISION OF INPATIENT SERVICES

Professor: Frederick R. Hine, M.D. (Yale, 1949), *Head of Division*.

Professor: John M. Rhoads, M.D. (Temple, 1943).

Associate Clinical Professor: Robert D. Miller, M.D. (Duke, 1972), Ph.D. (Duke, 1973).

Assistant Professors: Allen Dyer, M.D. (Duke, 1972); Elliott B. Hammett, M.D. (Duke, 1966); Z. Daniel Pauk, M.D. (Iowa, 1956); Joseph Strayhorn, M.D. (Northwestern, 1974).

Assistant Clinical Professors: Richard O. Poe, M.D. (Harvard, 1958); Cynia B. Shimm, M.D. (Yale, 1950); William Taylor, M.D. (Med. Coll. of Virginia, 1959); Ervin Thompson, M.D. (Vanderbilt, 1972).

Associate: Dale Simpson, M.D. (Johns Hopkins, 1976).

Associate in Psychiatric Recreation Therapy: Barbara A. Yoder, M.S. (Florida, 1970).

Clinical Associate: Ernest Raba, M.D. (Texas, 1972).

Research Associate: Alan J. Stern, Ph.D. (Yale, 1970).

Clinical Associate Psychiatric Nursing: Patricia Webster, M.S.N. (North Carolina at Chapel Hill, 1976).

Geropsychiatry

J. P. Gibbons Professor: Ewald W. Busse, M.D. (Washington Univ., 1942), *Associate Provost and Dean, Medical and Allied Health Education*.

Professors: Daniel T. Gianturco, M.D. (Buffalo, 1960); Adriaan Verwoerdt, M.D. (Med. School of Amsterdam, 1952); Hsio-shan Wang, M.D. (National Taiwan Univ., 1953); Alan D. Whanger, M.D. (Duke, 1956).

Associate Medical Research Professor: Dietolf Ramm, Ph.D. (Duke, 1969).

DIVISION OF MEDICAL PSYCHOLOGY

Associate Professor: Robert J. Thompson, Ph.D. (North Dakota, 1971), *Head of Division*.

Professors: Irving A. Alexander, Ph.D. (Princeton, 1949); Robert C. Carson, Ph.D. (Northwestern, 1957); Edward Clifford, Ph.D. (Minnesota, 1954); Herbert F. Crovitz, Ph.D. (Duke, 1960); Martin Lakin, Ph.D. (Chicago, 1955).

Associate Professors: Elaine K. Crovitz, Ph.D. (Duke, 1964); Patrick Logue, Ph.D. (North Dakota, 1965); Gail R. Marsh, Ph.D. (Iowa, 1968); Susan Schiffman, Ph.D. (Duke, 1970); Ilene Siegler, Ph.D. (Duke, 1974); Robert H. Shipley, Ph.D. (Iowa, 1972); W. Derek Shows, Ph.D. (Duke, 1967); Richard Surwit, Ph.D. (McGill, 1972).

Adjunct Associate Medical Research Professor: Sandra Funk, Ph.D. (North Carolina at Chapel Hill, 1976).

Clinical Associate Professor: Lenor Behar, Ph.D. (Duke, 1973).

Assistant Professors: James Blumenthal, Ph.D. (Washington, 1975); John Curry, Ph.D. (Catholic Univ., 1972); Mary M. Huse, Ph.D. (Duke, 1959); Francis Keefe, Ph.D. (Ohio, 1975); Albert D. Loro, Jr., Ph.D. (Washington Univ., 1976); Carole S. Orleans, Ph.D. (Maryland, 1977); Anna L. Stout, Ph.D. (South Carolina, 1980); Russell F. Tomlinson, Ph.D. (Florida, 1957).

Assistant Clinical Professors: John Barrow, Ph.D. (Houston, 1971); Jack Edinger, Ph.D. (Virginia Commonwealth, 1971); Mark Feinglos, Ph.D. (McGill, 1973); John Lochman, Ph.D. (Connecticut, 1976); Richard A. Lucas, Ph.D. (North Carolina at Chapel Hill, 1972); Belinda Novick, Ph.D. (Michigan State, 1978).

Assistant Medical Research Professors: Ralph Cooper, Ph.D. (Rutgers, 1973); James A. Green, Ph.D. (North Carolina at Chapel Hill, 1979); David Madden, Ph.D. (California at Davis, 1977); Pamela Trent, Ph.D. (Northwestern, 1975).

Clinical Associates: Ellen H. Bacon, Ph.D. (North Carolina at Chapel Hill, 1978); James E. Byassee, Ph.D. (Louisville, 1975); William Fuchs, Ph.D. (Kentucky, 1978); William Gunn, Ph.D. (Duke, 1979); Charles D. Gasswint, Ph.D. (Oklahoma, 1968); Sabrina Molden, Ph.D. (North Carolina at Chapel Hill, 1981); James Osberg, Ph.D. (North Carolina at Chapel Hill, 1980); Thomas Stearns, Ph.D. (Florida State, 1980); Joseph E. Talley, Ph.D. (Virginia, 1977).

Clinical Instructors: Joseph W. Kertesz, M.A. (Michigan, 1973); Janice A. Nici, Ph.D. (Arizona, 1980); Steven Weincrot, Ph.D. (Denver, 1979).

Research Associates: James Lane, Ph.D. (Los Angeles, 1979); Andrew Block, Ph.D. (Dartmouth, 1976); Miriam Clifford, Ph.D. (Duke, 1970); Helen J. Rogers, Ph.D. (North Carolina at Chapel Hill, 1980).

DIVISION OF OUTPATIENT SERVICES

Professor: Jesse O. Cavenar, Jr., M.D. (Arkansas, 1963), *Head of Division*.

Professor: David S. Werman, M.D. (Lausanne, Switzerland, 1952).

Associate Professor: David M. Hawkins, M.D. (Duke, 1966).

Assistant Professors: Ronald Taska, M.D. (Baylor, 1973); John I. Walker, M.D. (Texas at Galveston, 1970).

Assistant Professor of Psychiatric Nursing: Eleanor M. White, M.S. (Oregon, 1963).

Assistant Clinical Professors: Martin G. Groder, M.D. (Columbia, 1964); Leroy B. Lamm, M.D. (Bowman Gray, 1946); Christine Machemer, M.D. (Univ. of Freiburg, 1959); Malcolm N. McLeod, M.D. (North Carolina at Chapel Hill, 1965); Robert D. Phillips, M.D. (Pennsylvania, 1952); Karl W. Stevenson, M.D. (Bowman Gray, 1966).

Associate: Steve Mahorney, M.D. (Louisiana, 1973).

Clinical Associates: Ernest R. Braasch, M.D. (State Univ. of New York, 1970); Marianne DiMinno, M.A. (New York Univ., 1972); Frank B. Miller, M.D. (Michigan, 1974); Kinsley Weatherly, M.D. (Emory, 1959).

Clinical Instructor: Thomas Stephenson, M.D. (Michigan, 1972).

DIVISION OF PSYCHOSOMATIC MEDICINE

Professor: Jeffrey L. Houtp, M.D. (Baylor, 1967), *Head of Division*.

Professors: Joseph B. Parker, Jr., M.D. (Tennessee, 1941); Redford B. Williams, Jr., M.D. (Yale, 1967).

Adjunct Medical Research Professor: Kwen-Jen Chang, Ph.D. (State Univ. of New York, 1972).

Associate Professors: Marianne S. Breslin, M.D. (Medical Academy, Duesseldorf, Germany, 1946); Allan A. Maltbie, M.D. (Emory, 1969).

Assistant Professors: Randal France, M.D. (Texas at Galveston, 1973); James T. Moore, M.D. (Missouri, 1971).

Assistant Clinical Professors: James Buckingham, M.D. (Baylor, 1975); Conrad Fulkerson, M.D. (Missouri, 1969); Patricia A. Ziel, M.D. (Michigan, 1968).

Associates: Alan Stoudemire, M.D. (North Carolina at Chapel Hill, 1977); Michael Volow, M.D. (Seton Hall, 1964).

Clinical Associates: James Gallagher, M.D. (Stritch, 1974); Bruce Neeley, M.D. (Med. Coll. of South Carolina, 1975); James Weiss, M.D. (Louisiana, 1973); Robert Winton, M.D. (Vanderbilt, 1972).

DIVISION OF PSYCHIATRIC SOCIAL WORK

Assistant Professor: Martha L. Wertz, M.S.W. (Tulane, 1952), *Head of Division*.

Associates: Hallie M. Coppedge, M.S.W. (North Carolina at Chapel Hill, 1948); Maxine R. Flowers, M.S.W. (Columbia, 1964); Stephen Hawthorne, M.S.W. (California, 1974); Jane Clark Moorman, M.S.W. (Tulane, 1971); Lily P. Wang, M.S.W. (North Carolina at Chapel Hill, 1959).

Clinical Associates: Bess Autry, M.S.W. (North Carolina at Chapel Hill, 1976); Mary A. Black, M.S.W. (North Carolina at Chapel Hill, 1970); Katherine Buckner, M.S.W. (North Carolina at Chapel

Hill, 1964); Barbara Denny, M.S.W. (North Carolina at Chapel Hill, 1975); Muki Fairchild, M.S.W. (North Carolina at Chapel Hill, 1976); Glynn Fox, M.S.W. (Louisiana, 1966); Lisa Gwyther, M.S.W. (Case Western Reserve, 1969); Ann Hamrick, M.S.W. (North Carolina at Chapel Hill, 1965); Constance B. Margolin, M.S.W. (Simmons, 1970); Gail McLeod, M.S.W. (North Carolina at Chapel Hill, 1971); Gail McNeil, M.S.W. (North Carolina at Chapel Hill, 1974); Alice Myers, M.S.W. (North Carolina at Chapel Hill, 1966); Betty B. Parham, M.S.W. (Smith, 1971); Joye Pursell, M.S.W. (North Carolina at Chapel Hill, 1978); Carolyn Thornton, M.S.W. (North Carolina at Chapel Hill, 1968).

Instructor: Margaret Wilner, M.S.W. (Columbia, 1977).

Clinical Instructors: Christine Bell, M.S.W. (North Carolina at Chapel Hill, 1977); Christine Erskine, M.S.W. (North Carolina at Chapel Hill, 1980); William S. Meyer, M.S.W. (Illinois, 1977); Elinor T. Roy, M.S.W. (North Carolina at Chapel Hill, 1977).

Required Courses

PSC-200—consists of sixty hours devoted to human behavior. A lecture series introduces the student to the behavioral sciences most relevant to medicine. Lecturers from the fields of behavioral neurobiology, psychology, psychiatry, and sociology discuss various areas of behavior function from the points of view of the several scientific disciplines. Areas selected for discussion are those corresponding most closely to areas of disordered function: consciousness, sensorium, memory, and intellectual functions (corresponding to organic brain disease and mental retardation); ego integration (schizophrenia); mood and affect (mood disorders); personality and interpersonal functions (neurosis and personality disorders); psychophysiological functions (psychosomatic disorders); social integration (sociopathic disorders). Functional and developmental points of view are presented and stages in the development of the individual personality are traced. Concurrently, a series of small group meetings provide opportunities for additional assimilation of theoretical material and its application with specific examples of behavior through interviews of patients and group discussion. The small groups also provide opportunities to introduce effective techniques of human interviewing and interaction together with observation of the primary data of human behavior. Both didactic and small group portions of the course stress relevance of human behavior to the biological and psychological aspects of medicine.

PSC-205—required during the second year—is an eight-week clerkship in clinical psychiatry. The student assumes limited responsibility, under supervision, for diagnosis and treatment of patients on the psychiatric wards, psychiatric outpatient clinic, and psychosomatic consultation services on nonpsychiatric wards of the hospital. Supervision is directed toward the application of concepts of diagnosis, psychopathological formulation, and therapy. These concepts are taken from descriptive, biological, psychoanalytic, and psychosocial contributions to current psychiatric thought. Supervision is also provided to develop interpersonal techniques of sensitive observation and therapeutic use of self. Emphasis is placed upon concepts and techniques applicable to all patients as well as psychiatric patients. To this end student interviews with patients on the nonpsychiatric services are reviewed with a psychiatric supervisor. Didactic instruction includes seminars on symptomatic, characterological, and psychophysiological neurotic conditions; the major psychoses; psychiatric problems of childhood; adolescence and late life; drug and somatic therapies; the psychotherapies; and introductory electroencephalography. In addition to rounds and case conferences, students are encouraged to observe psychotherapy and to participate in supervised psychological treatment whenever appropriate situations can be provided.

Electives

PSC-210(B).† **Philosophy of Science and Behavioral Sciences.** A reading-discussion seminar reviewing the traditional (logical empiricist) view of scientific knowledge and method followed by consideration of recent developments of

†For further information, contact the Associate Dean for Graduate Medical Education.

thought suggesting additions and modifications to that view. Implications for the behavioral sciences in medicine are emphasized. Term: Fall 2. Weight: 1. *Hine and Simpson*

PSC-213(B).† Human Development I: Birth to Adolescence. This course is a survey of the psychological development of the child from birth through adolescence. The first segment of the course is designed to provide the student with an awareness of some of the major theoretical orientations to child development including the psychoanalytic, Piagetian, and social learning positions. This is followed by a systematic study of the normal sequences of child development, focusing in particular on some of the major events in the cognitive, social, and emotional life of the child. The course is run in seminar fashion utilizing numerous theoretical and research papers as well as observation of children in naturalistic settings to facilitate class discussion. Students will also be required to familiarize themselves with research in child development by doing a review of the literature in a defined area. Terms: Fall 1 or Spring 1. Weight: 2. *Curry*

PSC-214(B).† Human Development II: The Later Years of Life. This course will cover the basic research material in the psychology of adult development and aging with an emphasis on such topics as personality development, intellectual development, learning and memory, family and social processes, health and behavior, and research methods. Additionally, the use of research and knowledge base in geriatric medicine and in geriatric psychiatry, with a focus on understanding normal development in mid-life and old age, will be discussed. The course will be taught as a seminar. There will be assigned readings on reserve at the library and a recommended text. Students will be required to review the literature in an area of their choice, prepare an annotated bibliography, and have an oral examination on the topic. Term: Fall 2. Weight: 2. *Siegler*

PSC-215(B).† Comparative Personality Theory. An examination of models of human functioning; topics will include examples from psychoanalytic, interpersonal, humanistic, behavioristic, and existential approaches with the goal of recognizing personality issues that may arise within the framework of the doctor-patient relationship. A paper covering empirical approaches is required. Term: Spring 1. Weight: 1. *Crovitz*

PSC-217(B).† Interpersonal Relationships. Theoretical and empirical models of interpersonal relationships will be examined, with emphasis upon the changing, developmental stages of interpersonal relationships. Research in marital and family systems and in physician-patient dyads will be critically discussed. Terms: Spring 2. Weight: 1. *Lochman*

PSC-223(B).† Neurobiological Basis of Behavior. The course surveys neuroanatomical, neurophysiological, neurochemical, and neuropharmacological evidence of central nervous system function as it relates to normal and abnormal behavior. Clinical description, measurement of function, as well as the biological substrates of affective disorders and psychoses, will be emphasized. Scientific bases of current therapeutic procedures, especially psychopharmacological, will be examined. Course format consists of assigned readings, study questions, lectures by faculty, and other active researchers. Mid-term and final examinations are given. Additionally, students will have an opportunity to become acquainted with and to participate in ongoing research. Terms: Fall 1 and 2. Weight: 4. *Ellinwood, Dougherty, Brodie, Erwin, Grant, Hong, Cooper, Logue, Marsh, Taska, and Wilson*

PSC-238(B).*† Psychophysiology. The first half of the course is devoted to lecture presentations covering the major topics in psychophysiology with an emphasis on the relationship between cognition, attention and emotional states and the EEG, evoked potentials, skin potential, heart rate, and muscle tension. The

second half of the course will be devoted to seminar style presentations by the students on topics of their choice and by demonstrations and experiments carried out in the laboratory. A midterm and final exam along with a term paper determine the grade. Terms: Spring 1 and 2. Weight: 3. *Marsh*

PSC-293(B).† Behavioral Medicine. The theory and application of behavior therapy and behavior modification as applied to the treatment of disease will be discussed. The course will focus on the direct behavioral manipulation of pathophysiology, using biofeedback, relaxation and other self-control techniques. Attention will be focused on the treatment of headaches, cardiovascular disorders, neuromuscular disorders, chronic pain, and stress-related gastrointestinal disease. Both didactic presentation and case material will be used. Students will be expected to spend at least two hours per week seeing patients and rounding with staff. Terms: Summer 1, Fall 1, Spring 1. Weight: 2. *Surwit, Blumenthal, and Keefe*

PSC-297(B).† Contemporary Black American Health Patterns. Subcultural awareness increase through descriptive analytical survey of black health patterns, related literature, and evaluation of relevant federal programs with emphasis upon political, racial, and socioeconomic problems (2 units) and optional student sociocultural research preceptorship on relevant problems including focus on aged blacks. 2-6 units. Term: Summer 2, Spring 2. Weight 2-8. *Jackson*

PSC-299(B).† Preceptorship in Neurobiology and/or Behavioral Science. Opportunity for the student to work closely with a member of the faculty in an area of mutual interest, with emphasis upon research. (See biobehavioral study program for partial list of interest areas; more complete descriptions available.) Every term. Weight: 1-8. *Ellinwood and staff*

PSC-303(B).† Developmental Disabilities. The course will focus on several disorders illustrative of the field, such as retardation, autism and learning disabilities as well as broader issues relating to evolving approaches at diagnosis, remediation, and prevention. The objectives are to present what is known about the etiology and course of developmental disabilities as well as an appreciation of management issues. Terms: Fall 2, Spring 2. Weight: 2. *Thompson*

PSC-305(B).† Social and Cultural Aspects of Illness. Seminar on medical-social roles in community and hospital. Topics include physician-patient relationship; epidemiology of illness and health services in terms of ecology, social stratification, race, deviance, and life cycle. Students prepare and present to the seminar a term paper on a topic of their choice. Students wishing further work in one particular topic such as black sub-culture or gerontology, should take PSC-299(B) specifying particular interest. May be taken in conjunction with PSC-251(C). Term: Spring 1. Weight: 3. *Palmore and Maddox*

PSC-227(C). Behavioral Aspects of Pediatrics. The purpose of this course is to provide training and experience in recognizing and managing the emotional reactions of children and their families to medical and/or psychiatric problems. An integral part of this course will be clinical interviews with the child, parents, and selected family members to determine the impact of medical and psychiatric problems on the development and psychosocial functioning of the child and the total family. Emphasis will be placed on developing skills and child and family interviewing, crisis intervention, diagnostic evaluations, and appropriate treatment and referral plans. (See also PED-227(C).) Terms: Fall 1 and 2, Spring 1 and 2, Summer 1. Weight: 2-6. *Jones, Yancy, Burns, McDaniel, and Pursell*

PSC-234(C). Clinical and Experimental Psychopharmacology. Experience in one or more areas of psychopharmacology including clinical use of drugs, human experimental psychopharmacology and animal neuropharmacology. Lectures covering drug metabolism; mechanisms of action; drug-to-drug interaction;

use of animal models for screening psychotropic compounds; animal models of psychosis; neurochemical, behavioral, and electrophysiological effects of drugs during acute and chronic administration; FDA guidelines for conduction of clinical drug trials; biometric approach to ratings of psychopathology; statistical models and computer analysis techniques. Term: Fall 2. Weight: 4. *Zung and Ellinwood*

PSC-240(C). Inpatient Psychiatry. This course is an intensive clinical experience in the diagnosis and treatment of severe and incapacitating psychiatric disorders. The student will be given more clinical responsibility than the comparable second year inpatient rotation. Patient care responsibilities will include management of ward milieu. Treatment approaches emphasizing psychotherapeutic medication, individual and group psychotherapy will be part of the clinical experience. Participation at selected patient care conferences and didactic lectures is expected. The rotation is available at Duke and the V.A. The rotation at the V.A. will include admission decision-making. This experience can be structured to include a survey of the variety of residential treatment available in this area. If desired a student may arrange for a special reading tutorial in related topics (e.g. schizophrenia). Every term. Weight: 8-6-3. *Cavenar and Pauk*

PSC-243(C). Principles and Practice of Outpatient Psychiatry. Training and experience in recognizing and treating emotional disorders in outpatients. Supervised experience with patients having emotional problems commonly seen in medical practice. Training to include theory and techniques of brief psychotherapy, crisis intervention, supportive psychotherapy, and utilization of community resources, both at Duke Hospital and neighboring agencies. The student will be given more clinical responsibility than the comparable second-year outpatient rotation. Because of the nature of outpatient work it is suggested that the student take the longer (8 weeks) rather than the shorter rotation. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 3-8. *Hawkins, Weiss, Werman, and staff*

PSC-245(C). Psychosomatic Medicine. The consultation-liaison services at the Duke Medical Center and the V.A. Hospital offer clinical clerkships in the psychological management of medical patients. At Duke Hospital, the student does consultations to the various medical and surgical services under the supervision of residents and staff. Emphasis is placed on training the student in interviewing, assessing, and intervening with patients who are depressed, hypochondriacal, responding emotionally to illness, or have conversion symptoms. At the V.A. Hospital opportunities are available to work with selected staff people on the emotional aspects of the disease process through surgical and medical liaison consultations. Students can select specific areas of interest which include emotional aspects of cardiac disease, intensive care, death and dying, orthopaedics, and pain. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 8. *Haupt, Breslin, Blazer, Maltbie, Parker, and Williams*

PSC-251(C). Community Psychiatry and Mental Health. Course details will be worked out with individual students. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 4-8. *Llewellyn, Maddox, Rockwell, Carter, Anderson, Harris, and Keith*

PSC-252(C). Christianity, Medicine, and Psychiatry. A clinical training program in which the relationships of Christian insights to the practice of medicine and especially psychological medicine are presented. The course includes attendance at regularly scheduled seminars; individual supervision in the diagnosis, management, and therapy of patients; supervised reading; and a special seminar related to religious psychopathology, as well as the mental health benefits of Christian beliefs. Arrangements must be made with Dr. Wilson before registering for this course. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 4 or 8. *Wilson*

PSC-253(C). Group Psychotherapy. Observation of an on-going outpatient group psychotherapy program. Every term. Weight: 1. *Hawkins and staff*

PSC-255(C). Marriage Counseling in Medical Practice. Basic concepts of the marital relationship and the fundamentals of recognizing, evaluating, and counseling patients with marital problems will be taught. The orientation will be for the physician delivering primary care. References to the literature will be discussed, and a bibliography will be supplied; community resources for marriage counseling will be described; and students will be expected to present case material for discussion during class sessions. Term: Fall 2. Weight: 1. *Llewellyn and Breslin*

PSC-259(C). Clinical Electroencephalography. The purpose of this course is to acquaint the student with the clinical utility of the electroencephalogram in medical diagnosis. Supervised electroencephalographic interpretation sessions meet daily. Formal didactic instruction will also be provided. Every term. Weight: 2. *Erwin, Wilson, and Volow*

PSC-261(C). Clinical Psychology. The goal of this course is to help the student determine the relevance of psychological factors in the etiology and management of common medical problems. The course will introduce the student to psychological assessment techniques. Students will gain familiarity with the potential utility of these tests in medical practice by both observation and practice in their administration and interpretation. Students who are interested in medical problems such as cognitive impairment, low back pain, headache, or cardiac disease may elect to concentrate their efforts in a specific area. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 1. *Huse and staff*

PSC-265(C). Inpatient Adolescent and Family Psychiatry. Adolescent and family psychopathology are emphasized in the full-time clinical rotation. The experience offered is an intensive and rich one with opportunities to observe and treat patients and their families. Group and individual supervision, collaboration with milieu team members and diagnostic and treatment conferences are heavily emphasized. Every term. Weight: 8. *Miller and Guajardo*

PSC-267(C). Clinical Child Psychiatry. Survey of child and adolescent psychopathology, including diagnostic treatment and consultative approaches. Conferences and seminars augment closely supervised clinical experiences. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 8 or 16. *W. Anderson*

PSC-268(C). Psychosocial Aspects of Medical Illness. Seminars and supervised clinical experiences on the medical wards and clinics will be used to provide the student with knowledge of basic principles and practical clinical skills relevant to determining the role of psychosocial factors in the etiology and course of physical disease in man. This course must be taken in conjunction with a clinical rotation that includes ongoing responsibilities for patient care. Also listed as MED-268(C). Every term. Weight: 2. *Williams*

PSC-273(C). The Ideal Physician. The elective will explore, from the perspectives of history and ethics, the concept of the ideal physician in relation to such figures as Hippocrates, Osler, and others as well as students' and patients' conceptions of what a physician should be, technician and/or humanist. Term: Spring 1. Weight: 1-2. *Dyer and medical history staff*

PSC-274(C). The Ideal Patient. This elective will focus, using the disciplines of history and ethics, on the physician's relationship with the patient and how to deal with patients' expectations of what medicine has to offer. Topics highlighted will include the growth of medical technology, concepts of disease, psychosomatic medicine, and the medicalization of life. Term: Spring 2. Weight: 1-2. *Dyer and medical history staff*

PSC-333(C). Psychiatric Theory and Practice and Therapeutic Community in Durham County General Hospital. Principles and practice of psychiatric

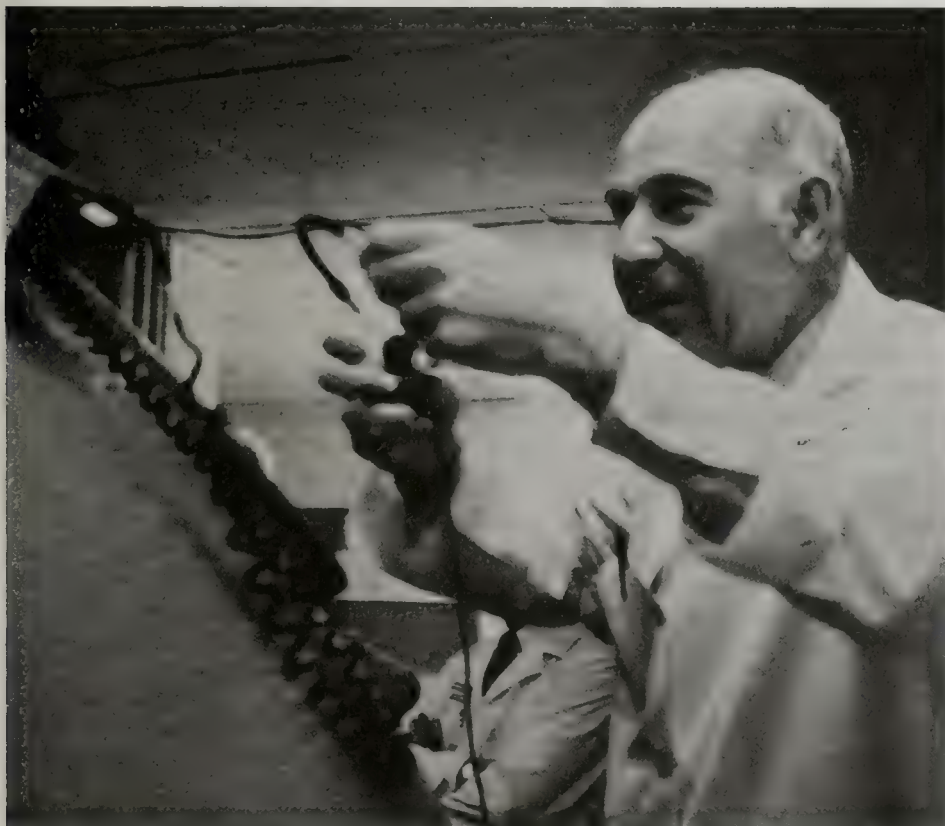
diagnosis and treatment. Theory of and supervised experience in family therapy, group therapy, and total management of the patient. Active involvement in therapeutic community of the hospital. Every term. Weight: 9. *Melges and Larson*

PSC-335(C). Research Preceptorship in Clinical Psychiatry. This course allows the student to work on a research project in clinical psychiatry with selected members of the psychiatric staff. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 3-8. *Clinical staff by arrangement and Gianturco*

PSC-337(C). Geriatric Psychiatry. The medical and clinical aspects of geriatric psychiatry with emphasis on diagnosis and management of geriatric patients in a variety of treatment facilities. Course includes attendance at scheduled conferences and supervised review of geriatric literature. Course may be taken in conjunction with PSC-214(B). Terms: Fall 1 and 2, Spring 1 and 2. Weight: 3-8. *Verwoerd, Whanger, Blazer, Wang, and staff*

PSC-339(C). Preceptorships in Clinical Psychiatry. An advanced training program in the preceptorship style for the recognition, diagnosis, prognosis, and treatment of psychiatric disorders. Experience will be mainly with inpatients and patients seen in consultation from other services but may include outpatients as well. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 3-8. *Clinical staff by arrangement and Gianturco*

PSC-343(C). Clinical Aspects of Alcohol and Drug Abuse. The purpose of this course is to provide training and experience in recognizing and managing alcoholics and drug abusers. The student will participate in the evaluation and treatment of abusers. Students will also have the opportunity to participate in



alcohol detoxification. The principles and practical management of detoxification of alcoholics will be demonstrated and discussed in depth. Personality characteristics and family interactions of abusers will be emphasized. Abuse is also a social process and the sociocultural milieu will be considered in depth. The student will also be instructed in the neuropharmacology of addicting drugs and alcohol. Students may also have the opportunity to participate in the on-going research of the Behavioral Neuropharmacology Section. Attendance at weekly neuropharmacology seminars is encouraged. Terms: Spring 1 and 2. Weight: 4-8. *Ellinwood, Maddox, Rockwell, Angle, and Miller*

PSC-353(C). Correctional-Forensic Psychiatry—Adult and Adolescent. Part-time or full-time experience in a correctional setting is offered. Diagnosis and treatment of adult and adolescent offenders with a variety of medical illnesses and behavioral disturbances are recognized. Elements of forensic psychiatry are stressed where appropriate. Supervision is provided by Duke and University of North Carolina faculty and the Central Prison Hospital and mental health staff. Opportunities for participation in a wide range of original and continuing research are available. Every term. Weight: 2-9. *Carter (Duke), Smith (North Carolina at Chapel Hill), and Rollins (Dorothea Dix)*

PSC-355(C). Clinical Experience in Psychotherapy. This course provides supervised instruction in the long-term care of patients with emotional illness. The student will undertake the psychotherapy of a patient under the direction of a member of the psychiatric faculty. The arrangement with the psychiatric supervisor should be discussed and confirmed with the fourth year clinical departmental professional adviser in psychiatry. Every term. Weight: 1-3. *Gianturco and staff*

PSC-357(C). Behavioral Medicine: Behavioral Treatment of Disease. This course is designed to acquaint the student with behavioral treatment approaches which have proved useful in management of many medical problems. Students will be involved in evaluation and treatment of patients with somatic and psychiatric disorders. Treatment will consist of behavioral modification approaches with particular emphasis on biofeedback. Every term. Weight: 1. *Surwit, Keefe, and Blumenthal*

PSC-365(C). Individual Psychotherapy Based on Psychoanalytic Theory. Seminar concerning the theory and practice of individual psychotherapy involving reading, lecture, and discussion. If possible, on-going discussion of student's cases will be utilized. Students will be encouraged to become involved in therapeutic work with an individual case. Terms: Fall 1 and 2. Weight: 1, 2, 3. *Pauk*

PSC-400(C). Geriatric Medicine. This elective is offered by the interdepartmental faculty of the Division of Geriatric Medicine. The student will work with faculty, fellows, and house staff in a number of settings involved in the care of the geriatric patient. These will include the Geriatric Evaluation and Treatment Clinic (Duke), Geriatric Evaluation Unit and Clinic (Veterans Administration Medical Center), geriatric consultation services (Veterans Administration Medical Center, Durham County General Hospital, and Duke), nursing home facilities, interactions with community services (Coordinating Council for Senior Citizens), home assessment, and others. Principles to be stressed will be biology and pathophysiology of aging; multiple clinical problems in the elderly; interdisciplinary team approach to evaluation, planning, and treatment; goals of maximal functional achievement and independence for the elderly. The student will participate actively in the workup and management of patients in both inpatient and outpatient settings as well as become more familiar with the problems of the elderly in the community. Familiarity with the growing literature in geriatric medicine will be encouraged and the student will participate in seminars, lectures, and team meetings at the appropriate sites including the Duke Center for the

Study of Aging. Every term. Weight: 4 or 8. *Cohen, Cohn, Crawford, Friedman, Harrell, Moore, Neish, Simpson, Sullivan, and Warshaw*

Radiology

Professor: Charles E. Putman, M.D. (Texas, 1967), *Chairman*.

DIVISION OF IMAGING

Associate Professor: Carl E. Ravin, M.D. (Cornell, 1968), *Director*.

Professors: James T. T. Chen, M.D. (Nat'l. Defense Med. Ctr., Taiwan, 1950); R. Edward Coleman, M.D. (Washington Univ., 1968); Herman Grossman, M.D. (Columbia, 1953); E. Ralph Heinz, M.D. (Pennsylvania, 1955); Melvyn Korobkin, M.D. (Connecticut, 1967); Reed P. Rice, M.D. (Indiana, 1955).

Associate Professors: James D. Bowie, M.D. (Oklahoma, 1967); William H. Briner, B.S. (Temple, 1954); Richard H. Daffner, M.D. (Buffalo, 1969); Burton P. Drayer, M.D. (Illinois, 1971); Philip J. Dubois, M.D. (Australia, 1969); N. Reed Dunnick, M.D. (Cornell, 1969); Eric L. Effmann, M.D. (Indiana, 1967); John A. Gehweiler, M.D. (Duke, 1956); C. Craig Harris, M.S. (Tennessee, 1951); Dennis Heaston, M.D. (Utah, 1975); Ronald Jaszczak, Ph.D. (Florida, 1968); Frederick M. Kelvin, M.D. (Univ. of London, 1966); Donald R. Kirks, M.D. (Missouri, 1968); Salutaro Martinez, M.D. (Havana Univ., 1961); David F. Merten, M.D. (Cincinnati, 1948); Dennis R. S. Osborne, M.D. (Univ. of London, 1967); Panol C. Ram, M.D. (India, 1968); William M. Thompson, M.D. (Pennsylvania, 1969); Robert H. Wilkinson, Jr., M.D. (Washington Univ. 1958); Joseph P. Workman, M.D. (Maryland, 1946).

Assistant Professors: Collins Baber, M.D. (Duke, 1973); J. David Duncan, M.D. (Texas, 1968); Kerry K. Ford, M.D. (Texas at Galveston, 1976); William Foster, Jr., M.D. (Duke, 1973); Rita Kristina Gedgaudas (Minnesota, 1975); David Godwin, M.D. (Stanford, 1971); Robert A. Halvorsen, Jr., M.D. (Miami, 1974); Hector J. Hidalgo, M.D. (George Washington, 1976); Steven R. Mills, M.D. (North Carolina at Chapel Hill, 1972); Arl Van Moore, M.D. (Arkansas, 1974); LeRoy Roberts, M.D. (Temple, 1975); Eric R. Rosenberg, M.D. (New York Med. Coll., 1975); Daniel C. Sullivan, M.D. (Vermont, 1970); Margaret E. Williford, M.D. (Duke, 1976).

Associates: Elizabeth Blackburn, M.Ed. (Virginia Commonwealth, 1972); Donald Johnson, M.D. (West Virginia, 1974); Pamela Nelson, M.D. (North Carolina at Chapel Hill, 1977); Paul Silverman, M.D. (Massachusetts, 1977); Charles Vassallo, M.D. (Georgetown, 1976).

Research Associates: W. Milton Bates, R.T. (Vanderbilt, 1973); Lawrence W. Hedlund, Ph.D. (Pittsburg, 1968); John Beck, M.S., (North Carolina State, 1979).

DIVISION OF RADIATION BIOLOGY

Professor: Aaron P. Sanders, Ph.D. (North Carolina at Chapel Hill, 1964), *Director*.

Associate Professor: William D. Currie, Ph.D. (North Carolina at Chapel Hill, 1964).

Assistant Professor: Raymond U, Ph.D. (Kyoto, Japan, 1970); Randy L. Jirtle, Ph.D. (Wisconsin, 1975).

DIVISION OF RADIATION PHYSICS

Professor: Fearghus O'Foghludha, Ph.D. (Nat'l. Univ. of Ireland, 1961), *Director*.

Assistant Professors: Mark J. Engler Ph.D. (Mass. Inst. of Tech., 1969); G. Allen Johnson, Ph.D. (Duke, 1974); Daniel Miller, Ph.D. (North Carolina State, 1971); Charles E. Nelson, Ph.D. (Ohio, 1973).

Research Associate: James W. Blackburn.

Associate: Conrad Knight.

DIVISION OF RADIATION THERAPY

Assistant Professor: K. T. Noell, M.D. (Rochester, 1967), *Director*.

Associate Professor: Boyd T. Worde, M.D. (Tennessee, 1947).

Assistant Professors: Elmer R. Cano, M.D. (Nat. Univ. at Trujillo, Peru, 1971); Arnold M. Herskovik, M.D. (Maryland, 1969).

Required Course

RAD-200—the basic course in radiology for all medical students is combined with physical diagnosis and laboratory diagnosis into IND-200. The course is a concentrated lecture series with correlating demonstration laboratories designed to provide a broad introductory exposure to the entire field of diagnostic radiology.

Electives

RAD-221(B). General Physics of Radiology. Basic physics underlying radiation diagnosis and therapy, emphasizing production and measurement of ionizing radiation and radiation interactions in tissue; physical rationale of radiation methods in clinical practice; survey of recent developments in radiological equipment; radiation hazards. Terms: Fall 2, Spring 1. Weight: 2. *O'Foghluudha*

RAD-223(B). Radioisotope Methods and Techniques in Biomedical Research. Introduction to principles and practices in biomedical research applications of radioactive materials: fundamentals of radioactivity, nuclear instrumentation, counting methodology, statistics of counting, liquid scintillation counting, external standard ratio, sample preparation. This course will be helpful for those seeking state or federal licenses for biomedical research uses of radioactive materials. Term: Spring 1. Weight: 2. *Sanders, O'Foghluudha, McCrea, Currie, and Knight*

RAD-227(B). General Radiobiology. Basic fundamentals essential to an understanding of biological effects of ionizing radiation. Major sections include radiation physics, radiation dosimetry, target theory, and activated water theory in radiation damage, oxygen effect, radiobiochemistry, subcellular effects, tissue radiosensitivity, general radiation syndrome. Term: Spring 1. Weight: 2. *Sanders, Currie, and Jirtle*

RAD-231(B). Introduction to Radiological Sciences. Basic principles underlying radiography, contrast materials, ultrasound, nuclear medicine, and computerized tomography will be presented. A thorough review of radiographic anatomy will precede an organ-system approach to radiologic-pathologic correlation. Lectures will be supplemented with demonstrations. Term: Fall 1. Weight: 3. *Effmann, Thompson, and Putman*

RAD-250(B). Research in Radiological Sciences. An individually arranged experience in which the student identifies with and participates in an established research program of a faculty member. Program should be arranged with DPA and proposed faculty member well in advance of starting date. Every term. Weight: 1-8. *Effmann, Thompson, and Putman*

RAD-210(C). Pediatric Radiology. A specialized program of instruction and participation in the wide variety of radiographic examinations in the pediatric age group. Special correlation of these examinations to the problems of specific diagnosis and patient care will be made. Students must contact Dr. Grossman prior to registration. Every term. Weight: 4-8. *Grossman and staff*

RAD-211(C). Clerkship in Neuroradiology. A specialized program of detailed instruction in neuroradiology. The program includes participation in the performance and interpretation of a variety of examinations including cerebral angiography, pneumoencephalography, computerized axial tomography, myelography, cisternography, and others. Students must contact Dr. Heinz prior to registration. Every term. Weight: 4. *Heinz, DuBois, and Drayer*

RAD-215(C). Clinical Radiation Oncology. Half of all cancer patients require radiation therapy of curative or palliative intent at some point in their care. This course provides clinical experience in evaluation, treatment, and follow-up of patients treated in the Division of Radiation Oncology. The course is particularly directed to students with career goals in medical, radiation, or surgical oncology. Students must contact Dr. Noell prior to registration. Every term. Weight: 4-8. *Noell and staff*

RAD-229(C). Basic Radiology Clerkship. This is designed to provide a broad exposure to varied aspects of radiology, with the emphasis on diagnostic radiology. The elective consists of: (a) an informal lecture course, supplemented by student

presentations; (b) weekly rotations observing the performance and interpretation of radiographic procedures; (c) use of an extensive teaching file of radiographs; (d) viewing a series of audiovisual tapes. One week is spent on the chest rotation, the other rotations are at the individual students' discretion, and may include GI, GU, bone, neuro, pediatrics, vascular, and E.N.T. radiology. Rotations to the V.A. radiology department, nuclear medicine, or radiation oncology at Duke may also be arranged. All registrants will meet with Dr. Kelvin the morning of the first day of the course to discuss their individual rotations. Every term. Weight: 4-8.

Kelvin and staff

Surgery

James B. Duke Professor: David C. Sabiston, Jr., M.D. (Johns Hopkins, 1947), *Chairman*.

DIVISIONS OF GENERAL AND CARDIO-THORACIC SURGERY

Professor: William W. Shingleton, M.D. (Bowman Gray, 1943), *Chief of Division of General Surgery*.

Professors: D. Bernard Amos, M.D. (Guys Hospital, London, 1963), Experimental Surgery; William C. Anlyan, M.D. (Yale, 1949); Dani P. Bolognesi, Ph.D. (Duke, 1964), Experimental Surgery; Eugene D. Day, Ph.D. (Delaware, 1952), Experimental Surgery; Howard C. Filston, M.D. (Western Reserve, 1962); James C. A. Fuchs, M.D. (Johns Hopkins, 1964); Robert H. Jones, M.D. (Johns Hopkins, 1965); Joseph A. Moylan, Jr., M.D. (Boston, 1964); H. Newland Oldham, Jr., M.D. (Baylor, 1961); William P. J. Peete, M.D. (Harvard, 1947); Raymond W. Postlethwait, M.D. (Duke, 1937); Will C. Sealy, M.D. (Emory, 1936); Hilliard F. Seigler, M.D. (North Carolina at Chapel Hill, 1960); Delford L. Stickel, M.D. (Duke, 1953); Andrew S. Wechsler, M.D. (State Univ. of New York, 1964); Walter G. Wolfe, M.D. (Temple, 1963); W. Glenn Young, Jr., M.D. (Duke, 1948).

Clinical Professor: Timothy Takaro, M.D. (New York Univ., 1943).

Associate Professors: Onyekwere Akwari, M.D. (Southern California, 1970); Darell D. Bigner, M.D. (Duke, 1965), Ph.D. (Duke, 1971), Experimental Surgery; Jeffrey J. Collins, Ph.D. (Harvard, 1972), Experimental Surgery; Wirt W. Smith, M.D. (Texas, 1951), Experimental Surgery.

Associate Medical Research Professor: Per-Otto F. Hagen, F.H.W.C. (Watt University, Edinburgh, Scotland, 1961), Experimental Surgery; Alphonse J. Langlois, Ph.D. (Duke, 1966), Experimental Surgery.

Associate Clinical Professors: James E. Davis, M.D. (Pennsylvania, 1943); Stewart M. Scott, M.D. (Baylor, 1951); Gulshan K. Sethi, M.D. (All India, 1963).

Assistant Professors: Ralph R. Bollinger, M.D. (Tulane, 1970); Jim L. Cox, M.D. (Tennessee, 1967); William Dille, Ph.D. (California, 1970); Gregory S. Georgiade, M.D. (Duke, 1973); John P. Grant, M.D. (Chicago, 1969); George S. Leight, Jr., M.D. (Duke, 1972); James E. Lowe, M.D. (California at Los Angeles, 1973); Philip D. Lumb, M.B.B.S. (London Univ. School of Med., 1974); J. Scott Rankin, M.D. (Tennessee, 1969); Alfred Sanfilippo, M.D. Ph.D. (Duke, 1975), (Duke, 1976), Experimental Surgery; Gary Stuhlmiller, Ph.D. (Duke, 1976), Experimental Surgery; Frances F. Ward, Ph.D. (Brown, 1965), Experimental Surgery.

Assistant Medical Research Professors: John O. Cambier, Ph.D. (Iowa, 1975); Barbara Kitchell, Ph.D. (Duke, 1974); Thomas J. Matthews, Ph.D. (Missouri, 1971); Elmer J. Rauckman, Ph.D. (Duke, 1975).

Assistant Clinical Professors: Albert H. Bridgman, M.D. (Louisiana, 1956); Rollins S. Burhans, Jr., M.D. (Louisville, 1963); Gordon M. Carver, M.D. (Duke, 1948); John M. Cheek, Jr., M.D. (Bowman Gray, 1945); John T. Daniels, M.D. (Howard, 1964); Thomas L. English, M.D. (Duke, 1969); Thomas J. Enright, M.D. (Buffalo, 1948); Walter J. Loehr, M.D. (Cornell, 1963); James G. Leuhrs, M.D. (Washington, 1960); F. Maxton Mauney, Jr., M.D. (Duke, 1959); W. B. McCutcheon, Jr., M.D. (Virginia, 1952); Amir A. Neshat, M.D. (Isfahan University, Iran, 1960); E. Wilson Staub, M.D. (Northwestern, 1957); Douglas H. Stone, M.D. (Harvard, 1937); David W. Vaughn, B.S. (New York State Univ., 1978); Charles D. Watts, M.D. (Howard, 1943); David K. Wellman, M.D. (Duke, 1971).

Associate: Kent J. Weingold, Ph.D. (Pennsylvania, 1979).

Clinical Associates: Ray A. Ashcraft, B.S. (North Texas State, 1958), D.D.S. (Baylor, 1963), Dentistry; Thomas A. Ferretti, D.D.S. (North Carolina at Chapel Hill, 1976), Dentistry; Robert N. Hunter, D.D.S. (North Carolina at Chapel Hill, 1977), Dentistry.

Medical Research Associate: Paul Hendrix, B.S. (Coll. of Charleston, 1970), B.H.S. (Duke, 1975).

Research Associates: Timothy Darrow, Ph.D. (State Univ. of New York, 1980); James W. Davis, M.S.E.E. (Duke, 1974); Gudrun Huper, M.A. (Stuttgart, Germany); Anthony V. Seaber; George Konstantinow, Jr., Ph.D. (North Carolina at Chapel Hill, 1980); Juliet S. Melzer, M.D. (Illinois, 1974).

DIVISION OF NEUROSURGERY

Professor: Robert H. Wilkins, M.D. (Pittsburgh, 1959), *Chief*.

Professor: Wesley A. Cook, Jr., M.D. (Oregon, 1963); Blaine S. Nashold, M.D. (Louisville, 1949).

Assistant Professors: Allan H. Friedman, M.D. (Illinois, 1974); W. Jerry Oakes, M.D. (Duke, 1972); Bruno J. Urban, M.D. (Germany, 1960).

Assistant Clinical Professors: Bruce L. Kihlstrom, M.D. (North Carolina at Chapel Hill, 1972); Walter S. Lockhart, M.D. (Bowman Gray, 1944); Robert E. Price, Jr., M.D. (North Carolina at Chapel Hill, 1964).

Associates: Carlos U. Arancibia, M.D. (Univ. of Chile, 1969); Richard S. Kramer, M.D. (Duke, 1962).

Research Associates: Janice O. Levitt, Ph.D. (Temple, 1963); Robert D. Pearlstein, M.S. (North Carolina at Chapel Hill, 1978).

DIVISION OF ORAL SURGERY

Professor: Nicholas G. Georgiade, D.D.S., M.D. (Duke, 1949), *Chief*.

Associate Professor: John C. Angelillo, D.D.S., M.D. (Duke, 1970).

Assistant Professor: Edward A. Dolan, D.D.S. (Maryland, 1971).

DIVISION OF ORTHOPAEDIC SURGERY

James B. Duke Professor: J. Leonard Goldner, M.D. (Nebraska, 1943), *Chief*.

Professors: Frank H. Bassett III, M.D. (Louisville, 1957); Frank W. Clippinger, M.D. (Washington, 1952); Donald E. McCollum, M.D. (Bowman Gray, 1953); James R. Urbaniak, M.D. (Duke, 1962).

Associate Professor: Robert J. Ruderman, M.D. (Rochester, 1968).

Associate Clinical Professors: Everett I. Bugg, Jr., M.D. (Johns Hopkins, 1937); Ralph W. Coonrad, M.D. (Duke, 1947); John Glasson, M.D. (Cornell, 1943); Frank H. Stelling III, M.D. (Georgia, 1938).

Assistant Professors: Richard D. Goldner, M.D. (Duke, 1974); William T. Hardaker, M.D. (Duke, 1973); John M. Harrelson, M.D. (Duke, 1964); James A. Nunley II, M.D. (Tulane, 1973).

Assistant Clinical Professors: J. Lawrence Frank, M.D. (Duke, 1965); J. George Jonas, M.D. (Zurich, 1954); Stephen N. Lang, M.D. (Illinois, 1965); C. Robert Lincoln, M.D. (Med. Coll. of Virginia, 1960); Angus M. McBryde, Jr., M.D. (Duke, 1963); William S. Ogden, M.D. (Med. Coll. of Georgia, 1965); Eugene L. Zorn, M.D. (New York Med. Coll., 1941).

Clinical Associates: Richard F. Bruch, M.D. (Illinois, 1972); Albert T. Jennette, M.D. (North Carolina at Chapel Hill, 1959); Leslie C. Meyer, M.D. (Nebraska, 1943); Ronald A. Pruitt, M.D. (Med. Coll. of Virginia, 1959).

DIVISION OF OTOLARYNGOLOGY

Professor: William R. Hudson, M.D. (Bowman Gray, 1951), *Chief*.

Associate Professors: T. Boyce Cole, M.D. (North Carolina at Chapel Hill, 1962); Joseph C. Farmer, Jr., M.D. (Duke, 1962); Patrick D. Kenan, M.D. (Duke, 1959).

Associate Medical Research Professor: John H. Casseday, Ph.D. (Indiana, 1970).

Associate Clinical Professor: Carl M. Patterson, M.D. (Maryland, 1944).

Assistant Professor: Samuel R. Fisher, M.D. (Duke, 1975).

Assistant Medical Research Professor: Peter G. Kaufman, Ph.D. (Chicago, 1971); Tseuneo Watanabe, M.D. (Keio Univ., 1974).

Assistant Clinical Professors: Carter S. Bagley, M.D. (Virginia, 1959); James W. Brown, Jr., M.D. (Duke, 1941); Charles E. Clark III, M.D. (Michigan, 1968); William B. Costenbader III, M.D. (Virginia, 1964); Seth G. Hobart, Jr., M.D. (Virginia, 1950); Lynn A. Hughes, M.D. (Oklahoma, 1968); James B. Powell II, M.D. (Alabama, 1965).

Clinical Associates: Peter G. Chikes, M.D. (North Carolina at Chapel Hill, 1972); Edward V. Hudson, M.D. (Bowman Gray, 1962); William B. Inabnet, M.D. (Louisiana, 1958); Thaddeus H. Pope, Jr., M.D. (North Carolina at Chapel Hill, 1957).

DIVISION OF PLASTIC AND MAXILLOFACIAL SURGERY

Professor: Nicholas G. Georgiade, D.D.S., M.D. (Duke, 1949), *Chief*.

Professors: Edward Clifford, Ph.D. (Minnesota, 1954); Galen W. Quinn, D.D.S. (Creighton, 1952), Orthodontics; Donald Serafin, M.D. (Duke, 1964).

Associate Professors: John C. Angelillo, D.D.S. (Duke, 1970); Robert M. Mason, D.M.D. (Kentucky, 1977). M.S.O. (North Carolina at Chapel Hill, 1979), Orthodontics.

Associate Clinical Professor: George F. Crikelair, M.D. (Wisconsin, 1944).

Assistant Professors: William J. Barwick, M.D. (Tennessee, 1971); Ronald Riefkohl, M.D. (Tulane, 1972).

Assistant Clinical Professor: Verne C. Lanier, Jr., M.D. (Vanderbilt, 1966).
Research Associate: Ruth S. Georgiade, M.A. (Duke, 1950).

DIVISION OF UROLOGIC SURGERY

Professor: David F. Paulson, M.D. (Duke, 1964), *Chief*.

Professor: E. Everett Anderson, M.D. (Duke, 1958).

Associate Professors: Robert A. Bonar, Ph.D. (California at Berkeley, 1953), Biophysics; John L. Weinerth, M.D. (Harvard, 1967).

Associate Clinical Professors: John H. Grimes, M.D. (Northwestern, 1965); Jack Hughes, M.D. (Pennsylvania, 1943).

Assistant Professors: Culley C. Carson III, M.D. (George Washington, 1971); Elaine K. Crovitz, Ph.D. (Duke, 1968); Philip J. Walther, M.D. (Duke, 1975); George S. Webster, M.B., Ch.B. (Univ. Coll. of Rhodesia, 1968).

Assistant Medical Research Professors: John W. Day, Ph.D. (Iowa, 1972); Robert W. Green, Ph.D. (Hawaii, 1969); Yousuf Sharief, Ph.D. (North Carolina State Univ., 1973); Karen S. Webb, Ph.D. (North Carolina at Chapel Hill, 1973).

Assistant Clinical Professors: A. James Coppridge, M.D. (Virginia, 1953); Alvin D. Couch, M.D. (South Carolina, 1948); Joyce D. Coughlin, M.D. (Buffalo, 1944); Hector H. Henry II, M.D. (Tulane, 1965); Robert A. Older, M.D. (Duke, 1968); Edwin M. Tomlin, M.D. (Tennessee, 1946).

Clinical Associates: James A. Bergant, M.D. (Kansas, 1969); Alexander Maitland III, M.D. (Yale, 1955); Randall B. Vanderbeek, M.D. (Duke, 1963).

Clinical Instructors: Oscar W. Brazil, Jr., M.D. (Louisiana, 1961); Raymond E. Joyner, M.D. (Bowman Gray, 1968).

Research Associate: Joy L. Ware, B.A. (North Carolina at Chapel Hill, 1975).

Clinical Research Associate: Dannie H. King, Ph.D. (North Carolina State, 1973).

PROGRAM IN HEARING AND SPEECH DISORDERS

Professor: LuVern H. Kunze, Ph.D. (Iowa, 1962), *Director*.

Associate Professor: Bruce A. Weber, Ph.D. (Illinois, 1966).

Assistant Professors: Jennifer Horner, Ph.D. (Florida, 1977); John E. Riski, Ph.D. (Florida, 1976).

Associates: Burton B. King, M.A. (Northwestern, 1955); Robert G. Paul, Ph.D. (Oklahoma, 1969).

Instructor: Barbara G. Saunders, M.A. (Tennessee, 1974).

Required Course

SUR-205, the required course in surgery, is given in the second year and consists of an eight week clinical clerkship. The primary goal is the presentation of those concepts and principles which characterize the discipline of surgery. The fundamental features which form the foundation of surgical practice are presented at seminars three times weekly. The subjects discussed include antisepsis, surgical bacteriology, wound healing, inflammation, fluid and electrolyte balance, shock, the metabolic response to trauma, biology of neoplastic disease, gastrointestinal physiology and its derangements, and blood coagulation, thrombosis, and embolism.

The students are divided into two groups, one at Duke and the other at the V.A. Hospital, and each works with two members of the surgical faculty. Students are assigned patients on the surgical wards for diagnosis and management, and clinical rounds are made three times weekly with the faculty. A full-time teaching resident is assigned for the course in order to provide the students with continuous and readily available instruction at all times. A one hour session is devoted daily to demonstrations by the surgical specialties including neurosurgery, orthopaedics, otolaryngology, plastic surgery, and urology. The students attend a weekly session in experimental surgery, during which each student serves in rotation as the anesthesiologist, first assistant, and operating surgeon in performance of surgical procedures on experimental animals.

Electives

SUR-219(C). Advanced General and Thoracic Surgery (VA Hospital).
The student will function as a subintern in surgery. Special attention will be given

to those subjects in surgery common to all medical practices. Patients will be assigned to the students who will assume primary responsibility for their care under the supervision of the faculty and residents. The major emphasis will be on physiologic and pathologic changes, diagnosis, indications for operation, and observation of surgical procedures. Every term. Weight: 8. *Postlethwait, Fuchs, Seigler, Stickel, Wechsler, Akwari, Cox, and Lowe*

SUR-221(C). Surgical Specialties and Ophthalmology (V.A. Hospital). The student will attend selected conferences of all the surgical specialties and ophthalmology. Additionally, the student will select two or three of these specialties in which to concentrate experience (on one service at a time) in the operating rooms, clinics, and wards of the V.A. Hospital. Pathophysiology, diagnosis, and treatment will be emphasized. Every term. Weight: 8. *Fuchs, Carson, Chandler, Keenan, Barwick, and Harrelson*

SUR-222(C). Clinical Dentistry. Normal and abnormal development of head, face, jaws, and oral structures. Importance of teeth for mastication, speech, deglutition, growth and development, esthetics, general health, and for treatment of congenital and acquired abnormalities of the cranium, face, and jaws. Examination, diagnosis, and treatment of pediatric to geriatric oral dental disease. Orthodontic, surgical, and/or orthodontic-surgical management of orodentofacial problems. Every term. Weight: 1. *Quinn and Angelillo*

SUR-223(C). Medical and Surgical Renal Disease. Experience is offered in diagnosis and management of surgical diseases of the urinary tract and medical renal diseases with emphasis on clinical patient care. Participation in special urologic clinics and exposure to hemodialysis is offered with emphasis upon renal transplantation, renal failure, renovascular hypertension, and other aspects of medical and surgical disease. Every term. Weight: 8. *Anderson, Dennis, and respective staffs*

SUR-227(C). Advanced Urologic Clerkship. The diagnosis, management, and surgical treatment of patients with urologic disorders will be stressed. Students will be afforded intimate association with the entire staff in the clinics, wards, and operating rooms and will participate in surgery. Cystoscopic and urographic diagnostic methods along with other techniques will be taught. Every term. Weight: 8. *Anderson, Paulson, King, Weinerth, Webster, Carson, and Dunnick*

SUR-230(C). Seminar in Urologic Diseases and Techniques. Lecture-seminar course by members of the staff in urology and radiology, providing an introduction to the spectrum of urologic diseases, amplified by demonstration of urologic and radiologic diagnostic methodology. Clinical problems to be stressed include endocrinopathies, pediatric urology, obstructive uropathies, renovascular hypertension, urinary calculi, and urologic malignancies. Informal seminars given weekly. Every term. Weight: 2. *Anderson, Paulson, King, Weinerth, Webster, Carson, and Dunnick*

SUR-233(C). Basic Neurosurgery Course. Disease conditions commonly encountered in neurosurgery are presented. Clinical presentation of a common neurological disorder, such as brain tumor or head injury, is made by a member of the staff. Clinical features and plan of diagnostic investigation are stressed. The clinical disorder is used as a focal point from which to carry the presentation into the basic sciences are related to the clinical problem. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 1. *Cook, Wilkins, Kramer, Oakes, and Friedman*

SUR-234(C). Pediatric Neurosurgery. Survey of the major neurosurgical topics encountered in the pediatric age group. Emphasis will be given to the demonstration of clinical findings, necessary radiographic evaluation and therapeutic alternatives in selected disease processes. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 1. *Oakes and Wilkins*

SUR-235(C). Clinical Neurosurgery. Course is designed for those students with future interest in the neurological sciences. Duties include the workup and care of inpatients, workup of clinic patients, assistants in the operating room, daily rounds, and night call. Weekly conferences are held in neurosurgery, neurology, neuropathology, and neuroradiology. There are also special lectures. Every term. Weight: 8. *Wilkins, Nashold, Cook, Kramer, Oakes, and Friedman*

SUR-237(C). Investigative Neurosurgery. The student is assigned a project relating to the neurological sciences and, within reason, is provided with technical help, recording equipment, and experimental animals necessary for its completion. Each student plans and executes an individual project, with the help of the neurosurgery staff. Attendance at weekly conferences is required. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 8. *Wilkins, Nashold, Kramer, and Friedman*

SUR-239(C). Clinical Otolaryngology. This course will provide the student with a comprehensive survey of clinical otolaryngology. Duties will include participation in both outpatient clinic activities and inpatient care in addition to assisting in the operating room. The student will participate in ward rounds and in the various conferences held by the division. Every term. Weight: 4 or 8. *Hudson, Kenan, Cole, Farmer, and Fisher*

SUR-240(C). Otolaryngologic Seminar. This conference and demonstration course will provide an introduction to a variety of clinical problems in otolaryngology. Lectures will be supplemented with case presentations illustrating problems encountered in this field. Every term. Weight: 1. *Hudson, Kenan, Cole, Farmer, and Fisher*

SUR-242(C). Psychophysiology of Hearing. An examination of the relation of anatomy and physiology of the central auditory system to auditory discriminations. Original papers on neuroanatomy, electrophysiology, and psychophysics of hearing will be read and discussed. Also listed as Psychology 286 in *Graduate School Bulletin*. Terms: Spring 1 and 2. Weight: 3. *Casseday*

SUR-245(C). Reconstructive Plastic Surgery. A study of broad principles of trauma, wound, healing, and varied reparative processes. Every term. Weight: 8. *N. Georgiade, Serafin, Riefkohl, Barwick, and G. Georgiade*

SUR-255(C). Medical Speech/Language Pathology and Audiology. Theory and clinical practice in the evaluation and rehabilitation of disorders of communication including disorders of hearing, childhood language, articulation, stuttering, aphasia, voice, laryngectomy, craniofacial anomalies, and other conditions resulting in deficits of communication. Every term. Weight: 1. *Kunze and Weber*

SUR-259(C). General Principles of Orthopaedics. A full-time or part-time experience on the orthopaedic service with duties and responsibilities similar to a junior intern. Inpatient care, outpatient examination, and operating room experiences are included. Individual or group discussions each day with attending staff. The purpose of the course is to present broad concepts of orthopaedics to students planning general practice, pediatrics, allied surgical specialties, or orthopaedics. Every term. Weight: 4 or 8. *J. Goldner, Clippinger, McCollum, Bassett, Urbaniak, Harrelson, Ruderman, Hardaker, Nunley, R. Goldner, and staff*

SUR-261(C). Office and Ambulatory Orthopaedics. A full or part-time experience on the orthopaedic service with duties and responsibilities similar to a junior intern. Inpatient care, outpatient examination, and operating room experiences are included. Individual or group discussions each day with attending staff. The purpose of the course is to offer clinical experience to students who have completed Surgery 259(C). Rotations will be similar to those of Surgery 259(C). Terms: Fall 2 or Spring 2. Weight: 8. *Bassett, Clippinger, Goldner, McCollum, Urbaniak, Bugg, Coonrad, Lincoln, Glasson, Lang, Frank, Harrelson, and Hardaker*

SUR-267(C). Clinical Conference in Cerebral Palsy and Children's Orthopaedics. Conference is arranged for those interested in neurological disease, pediatric orthopaedic problems, and related fields. These conferences demonstrate both the individual and group approach to the patient with complex neurologic conditions as it effects both growth and development. Outpatients and inpatients are utilized for subject material. Staff personnel readily available for individual seminars. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 2 or 4. *Coonrad, Ruderman, Goldner, and cerebral palsy staff*

SUR-276(C). Advanced Clerkship in Pediatric Surgery. This course is designed to familiarize the student with the whole range of surgical problems in children but with emphasis on the pathophysiology of surgical and related problems in the newborn infant and the total care of the child with a malignancy. The student is encouraged to participate fully in the patient care aspects of the service, and is considered an integral part of the patient care team. Although the course may be taken for the full eight weeks, it is felt that a four-week experience is probably optimal for most students. It may be combined with other advanced surgical clerkships, such as Surgery 299(C); or with four weeks of neonatology, Pediatrics 225(C); or other courses depending on the interests of the student. Every term. Weight: 4 or 8. *Filston*

SUR-277(C). Orthopaedic Research. Individual projects are assigned for completion during a limited period of time. A student works with an investigator in the orthopaedic laboratory either at Duke Medical Center or the Durham V.A. Hospital. Clinical investigative studies are also available at both institutions. Every term. Weight: 8. *Goldner, Urbaniak, Harrelson, Ruderman, orthopaedic senior staff, and house staff*

SUR-281(C). Introduction to Fractures and Musculoskeletal Trauma. Students will participate in the emergency management of patients through the Duke Emergency Room primarily, but also through Durham County General and the Durham V.A. Hospitals. Principles of fractures in trauma will be given throughout the week at specified times and attendance at fracture conference will be required. Every term. Weight: 3. *Entire senior staff at Duke and Durham County General, supervision by Dr. Goldner at Duke, Dr. Harrelson at V.A., and Dr. Lang at Durham County General*

SUR-282(C). Advanced Surgery—Emphasis Cancer. Advanced concepts in surgery will be presented in seminars, and in ward, clinic, and operating room experiences. Fifty to 75 percent of the time will be devoted to clinical cancer and related basic topics, and the remainder to surgery generally. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 8. *Shingleton, Seigler, Grant, and Leight*

SUR-283(C). Advanced Surgery—Emphasis Cardiovascular-Thoracic. Advanced concepts in surgery will be presented in seminars and in ward, clinic, and operating room experiences. Fifty to 75 percent of the time will be devoted to cardiovascular-thoracic surgery and related basic topics, and the remainder to surgery generally. Term: Fall 2. Weight: 8; 2 for seminars only. *Sabiston, Oldham, Sealy, Wolfe, Young, Wechsler, R. Jones, Fuchs, Cox, Lowe, and Rankin*

SUR-284(C). Advanced Surgery—Emphasis Transplantation. Advanced concepts in surgery will be presented in seminars, and in ward, clinics, and operating room experience. Fifty to 75 percent of the time will be devoted to clinical transplantation and related basic topics, and the remainder to surgery generally. Term: Spring 1. Weight: 8; 2 for seminars only. *Stickel, Seigler, Amos, Bollinger, and Weinerth*

SUR-299(C). Advanced Surgical Clerkship. This course is structured to provide the student with a comprehensive approach to surgical disorders. Each

student will choose to work in the clinics, or on the wards, in the operating rooms and in the laboratory with one senior surgeon for eight weeks. Advanced concepts in surgery will be taught and problem-solving techniques will be demonstrated. Every term. Weight: 4–8. *Sabiston, S. Jones, Oldham, Peete, Postlethwait, Sealy, Seigler, Shingleton, Stickel, Young, Wolfe, R. Jones, Fuchs, Cox, Grant, Leight, Akwari, Bollinger, Lowe, and Rankin*

SUR-301(C). Emergency Department Surgical Care. Students desiring additional experience working with care of emergency surgical patients will be assigned to the emergency department one night per week for each credit desired. They will participate in the diagnosis and care of acute and traumatic surgical emergencies. Every term. Weight: 1–3. *Moylan and G. Georgiade*

SUR-303(C). Trauma Service. This course is designed to provide students interested in trauma care with further experience both in the Emergency Department and on the inpatient Trauma Service. The course will emphasize both triage and resuscitation for major and minor emergency problems in the Emergency Department and also preoperative and postoperative care on the inpatient Trauma Service. The student will have a full-time experience by assuming duties and responsibilities similar to a junior intern. Emphasis will be placed on developing skills in the care of patients with multisystem injuries in the Emergency Department, Inpatient Service, and Operating Room. Students will work in conjunction with the attending staff and the residents on the trauma service. Every term. Weight: 8. *Moylan and G. Georgiade*

SUR-304(C). Nutrition in the Hospitalized Patient. This course is designed to acquaint students with the techniques of nutritional assessment including somatic protein, visceral protein mass, body fat mass, immune competence, and metabolic balance studies. Students will learn to determine basal energy expenditure and nitrogen requirements. The metabolic effects of acute and chronic starvation as well as stress and infection and the role played by these events in the hospital course of patients will be studied. Emphasis will be placed on techniques of nutritional support including routine and specialized hospital diets, routine and modular tube feeding diets, peripheral intravenous protein sparing, and total parenteral nutrition. At the completion of the course, students will have a thorough grasp of clinical nutrition and be able to apply specialized oral diets, tube feeding diets, and intravenous nutrition. Terms: Spring 1 and 2. Weight: 2. *Grant*

Special Interdisciplinary Training Programs

BSP-301(B). Biobehavioral Study Program. The focus of the program will be to obtain an understanding of basic processes underlying normal and pathological human behavior. The year-long or two-term experience is designed to familiarize the medical student with significant developments in the behavioral sciences, investigative methodology used to examine human behavior, and the application of findings to medicine. Each student will be given the opportunity to focus on some determinant of human behavior which may include biological, psychological, developmental, or social factors. The major portion of the student's time will be spent in closely supervised library or laboratory research in an area of the student's interest, resulting in the preparation of a report of the work. To augment the specific interest of the student, either through seminars or guided readings, familiarity with current issues in the biobehavioral sciences will be emphasized. Students enrolled in this program may take courses given in the medical and graduate schools, and it is expected that they will integrate and balance their work with some courses of general medical importance. The faculty for the Biobehavioral Study Program is a multidisciplinary group representing several depart-

ments of the Medical School and the University and is involved in a broad range of interests in individual and group behavior. Students are encouraged to contact faculty members prior to enrollment in this study program to investigate areas of mutual interest that will form the basis for the supervised research experience.

The following outline describes material from which topics may be chosen for individual research or for discussion in the seminar or guided reading portion of the course. Additional areas, not listed, may be considered.

1. *Orientation to Research in the Biobehavioral Sciences.* Assumptions; measurements; history and philosophy of science; application of computer technology in biobehavioral research.
2. *Psychological, Biochemical, Endocrinological, and Psychopharmacological Correlates of Behavior.* Methods and techniques; role of autonomic arousal as relating to psychophysiological experiments; interrelations of CNS and ANS functioning; neurochemical and pharmacological factors affecting normal and abnormal feeling states, states of awareness, cognition, memory, and psychomotor manifestations; effect of CNS catecholamines, hormones, and behavior; correlations between serum levels of psychotropic drugs and their metabolites and behavior response to drugs; platelet MAO, acetylation capacity, total body clearance of antidepressive agents; behavioral untoward effects of psychotropic drugs and their relationships to personality, serum levels of these drugs, and biochemical effects.
3. *Personality and Individual Differences.* Personality theories, psychopathology.
4. *Cognitive Processes.* Intelligence, perception, cognition, ability, learning and development.
5. *Groups and Social Processes.* Social pattern and communication; social deviance; psychological studies of minority groups, sociology of life cycle changes; group psychotherapy. Every term. Weight: 9 units per term. *Program Director: Clifford*

CVS-301(B). Cardiovascular-Respiratory Sciences Study Program. The Study Program in Cardiovascular-Respiratory Sciences (CVS) is designed to offer third-year students instruction for one academic year in basic sciences as applied to the understanding of the cardiovascular and respiratory systems in health and disease. The program is interdepartmental in nature and will constitute a full credit load for those students who participate. It is comprised of three parts that run concurrently.

1. *Individual Tutorial.* The student will identify a senior member of the medical school faculty who is participating in the program and whose field of work is in the cardiovascular or respiratory area. The major part of the educational program for the student will be in the form of individual tutorials with this member of the staff. This tutorial may range from full-time independent research to an intensive study experience for the student. The student and the tutor will develop a plan and the student will review it with the director of the program.
2. *Group Seminar.* A seminar series will be developed according to the needs and desires of the students, the purpose of which is to read and discuss selected papers and/or discuss problems and topics which arise in the course of the lectures or are complementary to them. Students will be active participants in the seminar, and through this mechanism it is hoped to integrate knowledge of cellular physiology into an understanding of organ system function and control.
3. *Lecture Courses.* The following courses are required: PHS-221, The Heart and Peripheral Circulation in Health and Disease, and PHS-222, The Respiratory System in Health and Respiratory Disease. These courses will present selected topics in cardiovascular and respiratory physiology including analysis and evaluation of experimental and clinical studies relating to

selected diseases of circulation, cardiac electrophysiology and arrhythmias, ventricular-atrial function, disordered mechanical function and coronary blood flow, pulmonary mechanics, central and peripheral regulation of ventilation, pulmonary circulation and respiratory responses to exercise, altitude, and hyperbaric environments.

The above plan provides a structured and recommended curriculum design. Within this framework multiple pathways are available because of the concentration of effort in the tutorial experience. Tutorials can be arranged within any of the basic science departments or with individuals in clinical departments whose orientation or research is consistent with the goals of the program. Once a tutor is identified, added flexibility is gained by having the option to elect courses in addition to the required course in physiology and pharmacology or to elect seminars in addition to the group seminar. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 9 units per term. *Program Director: P. Anderson*

EDR-301(B). Endocrinology and Reproductive Biology Study Program.

This interdepartmental program is designed to provide third year medical students with an opportunity for indepth study of cellular endocrinology, neuroendocrinology, and reproductive biology as these relate to the function of the endocrine and reproductive systems in health and disease. In this program, major emphasis is placed on development of a plan of independent study for each student which is based on a tutorial or preceptorial association with an individual member of the program faculty. In addition, all members of the program, including faculty, meet regularly for seminars, discussions, and guest lectures on selected topics of interest to the entire group. PHS 417 and 418 are an integral part of the program. A student normally spends four terms in the program and receives full credit for the medical school advanced basic science requirement. Although the



program traditionally begins in September, its structure is potentially flexible enough to accommodate those who wish to begin in any term, including the summer terms. It should be emphasized that while the primary aim of the program is to provide an intensive experience in endocrinology and reproductive biology, opportunity is provided within the program format for students to broaden their basic science background by taking courses which may be unrelated to the subject matter of the study program.

For all students, the program consists of the following components:

1. *An Individual Tutorial.* This is carried out in association with one or more senior faculty members selected by the student and generally involves laboratory research in a particular area of endocrinology or reproductive biology. Before entering the program, students are asked to complete their tutorial arrangements. In order to facilitate this process, the Program Director will, on request, direct students to appropriate members of the program faculty or other members of the Medical School faculty whose specialty and research interests would permit them to participate in the program.
2. *The Seminar.* Held monthly throughout the academic year, the seminar covers various topics in endocrinology and reproduction in a format designed to explore current concepts, primarily through critical reading and discussion of contemporary literature. The seminar utilizes the background and experience of all members of the program faculty, guest speakers, and active student participation to develop an integrated approach to basic problems in endocrinology and reproductive biology.
3. *Lecture Courses.* PHS 417, Cellular Endocrinology, and PHS 418, Reproductive Biology, are specific course offerings in this program. In order to provide additional breadth of preclinical experience related to immediate or long-term interests, students are encouraged to take up to four units of course work per term. As noted above, individual course selections are not limited to those related to endocrinology or reproductive biology, although consultation with the preceptor is recommended before making final selections. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 9 units per term.

Program Director: Schomberg

EPI-301(B). Epidemiology Study Program. Epidemiology is the study of the distribution and determinants of disease occurrence in human populations. This study program will provide a basic grounding in epidemiologic principles and methods. Seminars, lectures, and research projects are combined to provide a comprehensive experience in quantitative approaches to the study of health and disease in populations.

Epidemiology is a science of growing importance. Its most important role today is the initial identification of causal associations and the formulation of new etiologic hypotheses. Increasingly, epidemiologists are being recognized as specialists in research design and data analysis for studies involving human subjects. The epidemiologic approach particularly lends itself to interdisciplinary research, since it borrows heavily from fields such as genetics, pathology, and immunology. Students will therefore be encouraged to take one or more related basic science courses outside of the study program.

The program will have a core of required courses and seminars supplemented by elective tutorials in areas of special interest. The required courses focus on epidemiologic and biostatistical research methods. Tutorials will take the form either of participation in ongoing research projects or of individual supervised studies. Such study topics will be carefully selected so that they may be completed in a reasonable period of time and lead to publication of results.

Program Core (Required Courses)

1. *Epidemiologic Principles and Methods*. Instructors: Grufferman, DeLong, Delzell, and Kimm. Topics covered in this course include the study of the distribution of disease in populations, issues in study design, data collection, and methods of analysis. Modules on the subjects of case-control, cohort and cross-sectional studies, clinical trials and intervention studies are presented. Methods are also introduced for assessing and dealing with bias, misclassification, and confounding. Primary reference papers serve as the main text for the course to enable students to gain facility in the critical review of medical literature. Lectures will be supplemented by outside readings, seminars, and student presentations. (Same as CFM-240(B).)
2. *Biostatistics in the Medical Sciences*. Instructor: DeLong. A practical approach to statistical methods and their use in medicine and the related health sciences. Particular emphasis will be placed on issues in the design, conduct, and interpretation of clinical and epidemiologic studies. Topics covered will include data collection and management, as well as tests of statistical significance for rates and ratios as measures of disease risk, survival analysis, variable selection techniques, and multivariate models for disease risk. Examples from real data and the medical literature will be used extensively. Also listed as CFM-215(B).
3. *Topics in Epidemiologic Research (Seminar)*. Instructors: Grufferman, DeLong, Delzell, and Kimm. The seminars focus on problems in the design and conduct of epidemiologic studies and analysis of data. Discussion is based on faculty and student research projects and supplemented by selected readings. Visiting scientists will be invited to present their work at the seminars. Emphasis will be placed on critical analyses of epidemiologic studies. The range of topics will expose the student to all major aspects of epidemiology (e.g., areas of communicable disease, mental illness and chronic disease epidemiology). Open only to program participants.
4. *Research Projects in Epidemiology*. Instructors: Grufferman, DeLong, Delzell, and Kimm. Students are required to participate in ongoing research projects or to conduct supervised studies of their own. A wide range of research topics is available to the student with emphasis on projects which can be completed in a reasonable period of time and lead to publication. Each student will work closely with an appointed preceptor.

Program Core (Optional Course)

5. *Nutrition Epidemiology*. Instructor: Kimm. Nutrition epidemiology may be defined as the study of the role of the nutrition factor in the *casual web* of illness patterns in human populations. This course offers a systematic review of population approaches to the study of nutrition. Currently, most nutrition courses are primarily concerned with studies using *in vitro* laboratory techniques, animal models, or individual human subjects, with minimal emphasis on human population groups in their natural environments. In the course, emphasis will be placed on methods available for chronic disease epidemiologic research since most nutritional disorders in man are basically chronic. Particular attention will be directed to principles of research design and critical analyses of selected studies. It is hoped that at the completion of the course, the student will be prepared to design and conduct population-based studies on human nutrition. (Same as CFM-242(B).)

All courses with the exception of Topics of Epidemiology Research Seminar are open to students outside of the program. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 9 units per term. *Program Director: Dr. Seymour Grufferman*

ISP-301(B). Immunology Study Program. Objectives: this study program is designed for students whose career goals lie in one of the many clinical specialties which interface broadly with immunology: allergy-immunology, infectious dis-

eases, rheumatology, hematology, transplantation, and oncology. A general fund of information is provided in the core course, Medical Immunology (MIC-330B), which emphasizes the role of immunologic mechanisms in various human disease states. Each student chooses a faculty preceptor, with whom an original research project is worked. It is encouraged that the student not be injected into the continuum of the preceptor's research interests but, rather, that an individual project is developed which can be completed during the study program. This laboratory effort may continue for two to four terms. The primary goals of the program are to encourage and develop the student's own creativity, to expose the student to the research interests and philosophies of the entire division and to help the student gain a useful personal perspective on current immunologic thought with an emphasis on clinical relevance.

The student's efforts and time are divided as follows:

1. *Preceptorship*. The major emphasis of the program, during which the student functions much as a graduate student in the division. 30 hours or more per week.
2. *Basic Immunology (MIC-2918)*. An in-depth course in the basic concepts of immunology. Analysis of antigens and antibodies is followed by an emphasis of the cellular aspects and organization of the immune system, its regulation, and effector mechanisms. While primarily a graduate course, MIC-291(B) is strongly recommended for those students intending to pursue a career in immunologically related fields. 4 hours per week. Terms: Fall 1 and 2.
3. *Medical Immunology (MIC-330B)*. The basic concepts of immunochemistry and immunobiology are reviewed in the first two weeks, and the remainder of the course describes the role of these concepts in the pathogenesis and treatment of several human disease states. Emphasis is given to tumor immunology, immunohematology, immunologic deficiency diseases, neuroimmunology, transplantation, autoimmunity, inflammation, and allergy. Patient presentations when applicable. Because the course meets daily, more than superficial coverage of the topics can be achieved. 5 hours per week. Terms: Spring 1 and 2.
4. *Seminars for Research Progress*. Throughout the year each faculty member, fellow, and student in the division presents a brief informal seminar on on-going research. The discussion that follows is of great help to the presenter and allows the student to observe and participate in critical analysis of research before it is at the polished publication or formal seminar stage. 1 hour per week.
5. *Immunology Division Seminar*. A series of formal seminars by division faculty and visiting scientists. 1-2 hours per week.
6. *Additional Course Work*. The student may elect to take any of several courses in immunology and related fields, but is generally discouraged from excessively diluting the laboratory experience. Terms: Spring 1 and 2. Weight: 9 units per term. Program Director: Dr. Scott

MCD-301(B). Molecular and Cellular Basis of Differentiation Study Program. Objectives: recent advances in molecular and cell biology provide new concepts in the area of developmental biology. This program is designed to give the medical student an appreciation of the phenomena of development as well as advanced training in a variety of biomedical disciplines. In order to provide a comprehensive coverage for many areas the program has been organized on a multidisciplinary level.

Particular emphasis is placed on the biochemistry of the cell surface as a basis of cell recognition, control of the cell cycle, and overall tissue organization. An analysis of protein nucleic acid interactions in chromosome structure and function are considered in the light of newer concepts of transcriptional and translational

control. Studies also include nuclear cytoplasmic interactions as well as hormone induction of differentiation and development. The rapidly expanding body of knowledge gained from these approaches will be examined by the medical student through seminars. The program provides an opportunity for the medical student to obtain an introduction to advanced training or research in a field of study of interest, including hematology, endocrinology, pediatrics, and immunology.

The program can be selected by the student for one or two semesters. First Semester: the first semester will consist of (1) a series of lectures given three times a week to cover basic principles, and (2) a series of seminars conducted by the students under the guidance of the faculty. The student will learn through direct observation, participation, and discussion with the staff.

The students will meet Monday, Wednesday, and Friday at 11:20-12:10 to attend the introductory course in development and differentiation. This course covers basic principles and is taught by the entire faculty for the purpose of establishing a firm foundation for the more advanced studies to be given in the second semester. The students will also prepare and attend seminars in differentiation and development. These seminars will be conducted by the students under the guidance of the faculty.

Upon entrance into the program the student will be interviewed by the faculty to suggest a program that will complement a future medical career. Students may also elect to spend part of their time in a library project under close faculty supervision, to be presented in an indepth seminar. As a general rule, mornings are reserved for course work and the afternoons for library tutorials.

Second Semester: the students in the second semester will attend an advanced course in development (#224) as well as other appropriate courses comprising the study program. It should be emphasized that the student is provided considerable flexibility in this program since there is no penalty for taking eighteen hours of course work for the first semester only. Terms: Fall 1 and 2, Spring 1 and 2. Weight: 18 per semester. *Cochairmen: McCarty and Counce*

NSS-301(B). Neurosciences Study Program. The neurosciences study program offers a comprehensive, integrated experience in the basic sciences focused on the nervous system. Fundamental principles of physiology, biochemistry, pharmacology, immunology, and anatomy are taught through an understanding of organizational and cellular neuroscience. The program lasts thirty-two weeks and includes optional lectures, a basic research experience under the guidance of a preceptor, and a monthly seminar. By emphasizing neuroscience, this program will be of use to students planning careers in several subspecialties of internal medicine (neurology, endocrinology, cardiology, infectious disease, genetic and metabolic disease), psychiatry, ophthalmology, pediatrics, or surgery. Weight: 9 per term.

1. *Lectures:* Trainees are encouraged to take PHS 270 and 272 (neurobiology) during the year. They also may attend the basic neuroscience program for neurology residents and the neurology division study group during the year.
2. *Research Experience:* An important component of the neurosciences study program is the opportunity for investigation in a basic science laboratory. The trainee will select a preceptor and work in the preceptor's laboratory. The objective of the laboratory experience is to familiarize the student with experimental design, analytical techniques, and interpretation of data. Although the student will work on an individual project, he or she will acquire considerable general knowledge from pursuing a laboratory problem in depth.
3. *Seminar:* Throughout the year, faculty members and students meet monthly to present informally ongoing research. This seminar allows the student to participate in open, critical discussion of laboratory investigations as well

as to develop skills in presenting scientific information clearly and concisely.

4. *Participating Faculty:*

Dr. James Davis, (medicine and pharmacology). Neuronal plasticity and neurobiology of catecholamine neurons; the neurobiological basis of recovery of function after stroke.

Dr. Frans Jöbbsis, (physiology). Cerebral oxidative metabolism, *in vivo* monitoring of brain cellular metabolism in animals and humans.

Dr. James McNamara, (medicine). Biochemical basis of epilepsy; studies of brain neurotransmitter receptors in animal models of seizures.

Dr. J. Victor Nadler, (pharmacology). Neuropharmacology of the hippocampus; neuronal plasticity and recovery of function after lesions.

Dr. Allen Roses, (medicine and biochemistry). Membrane abnormalities in the muscular dystrophies; studies of membranes in genetic diseases and aging.

Dr. Saul Schanberg, (pharmacology and medicine). Animal model of the maternal deprivation syndrome; regulation of hormone responses by the brain; neuropharmacology of amphetamines.

Dr. Cliff Schold, (medicine). Tissue culture studies of human brain tumors; biochemical and immunological identification of specific markers for nervous system malignancies.

Dr. George Somjen, (physiology). Electrophysiology studies of epilepsy, visual function, and the basal ganglia.

Dr. Ara Tourian, (medicine). Tissue culture studies of genetic diseases; membrane abnormalities in Huntington's Chorea.

Dr. F. Stephen Vogel, (pathology). Cellular biology of brain tumors, neurochemistry of melanin production; neurobiology of dementia.

Dr. Wilkie A. Wilson, (medicine and pharmacology). Cellular neurobiology; mechanisms of actions of convulsants and anticonvulsants; use of electrophysiology and biophysics to analyze neuronal activity.

5. *Codirectors:* Dr. Allen Roses and Dr. James Davis

VSP-301(B). Virology Study Program. Objective: to indicate the relevance of investigative virology to problems of clinical medicine and to provide an introduction to recent advances in virus research. The student's efforts and time are divided as follows:

1. Lectures and Seminars: Students will take MIC-301(B), Principles of Infectious Diseases. (6 hours per week.)

This is a lecture and seminar course designed to familiarize students with the basic biologic concepts, the pathogenesis and the clinical manifestations of infectious diseases caused by bacteria viruses, fungi, rickettsia, and selected parasites. The host defenses to infectious agents including the acute inflammatory response and humoral and cellular immunity, and current future trends in the development of vaccines and antimicrobial and antiviral agents will also be discussed.

2. Other Courses. Students in the program will have an option to take one additional relevant lecture course, approved by the course directors.
3. Individual Tutorial. During the remainder of the time each student will be supervised by a faculty member participating in the program in a study project. It is believed that it would be most beneficial for a student to carry out a laboratory research project. Lectures and seminars have been planned so that students can spend at least five to six hours each day in the laboratory. In the case that the program directors would approve of a project of a different nature, the student again would be supervised by one of the participating faculty members. In a study project of this kind, a student might be expected to take more than one additional relevant

course. Terms: Fall 1 and 2. Weight: 9 units per term. *Program Directors: Keene and Wilfert*

IND-300(B) or (C). Interdisciplinary Seminar in Medical-Legal-Ethical Issues. The seminar will be composed of students in approximately equal number from the Medical, Divinity, and Law Schools, and will explore important medical, legal, and ethical features of current issues (e.g., transplantation, euthanasia, abortion). Faculty and resource persons from all three schools will participate in the seminar. Up to four introductory sessions in the fall semester for all participating students and faculty will be concluded with arrangement of interdisciplinary terms and selected topics. Student teams will meet during the winter and consult at intervals with faculty. All seminar participants will reassemble for a series of weekly meetings, ending in mid-March, to present and discuss the topics researched. Any topics, properly focused, may be considered. Terms: Fall 2 and Spring 1. Weight: 2. *Gianturco (Medical), Shimm (Law), Smith (Divinity), and other faculty members from all three schools*

School of Nursing



The Nursing Programs

Bachelor of Science in Nursing. The School of Nursing offers a four-year course of study leading to the degree of Bachelor of Science in Nursing. Thirty-two courses including small-group learning experiences and thirteen upper division required courses in nursing are necessary to complete the program.

The first two years of the curriculum consist of required courses and elective courses in liberal arts, basic sciences, or nursing. The third and fourth years consist of the required courses in the nursing major, with provision for electives in the arts, sciences, or nursing. Opportunities are provided for students to undertake independent studies in nursing or other areas of interest.

Early in the junior year, students participate in clinical nursing practice where they acquire knowledge, skills, and attitudes appropriate for professional nursing. Provision for elective courses in most semesters enables the student to pursue a secondary or complementary field of interest, including the opportunity to acquire a second major. Option to pursue electives in nursing provides the opportunity for each student to begin in an area of concentration in clinical nursing.

Graduates are eligible to apply for examination for licensure as registered nurses in any state. Additional information may be obtained by writing for the *Bulletin of Duke University: Undergraduate Instruction*.

Master of Science in Nursing. The Master of Science in Nursing program prepares nurses to assume major leadership roles in the improvement of methods of delivery and the quality of health care of selected target populations in a chosen setting or settings. The practice sites of students can encompass all stages and phases of health and illness as experienced by people as individuals, and as members of families, groups, complex organizations, and communities.

The faculty believes that graduate education best takes place in an environment which fosters a combination of wisdom and imagination and promotes curiosity and freedom to innovate, rather than one which is limited to the acquisition of knowledge and skills which are required for practice in the present.

The graduate of the program, regardless of the chosen area of clinical interest, will be expected to: (1) demonstrate expertise in a defined area of advanced clinical nursing practice, (2) conduct inquiry into the nature of health and the practice of nursing, (3) demonstrate expertise in the management of health care, (4) employ strategic approaches to changing social systems for the improvement of health care, and (5) operationalize the values, goals, and behaviors appropriate to a community of scholars and unique to the discipline of nursing.



The curricular plan emphasizes flexibility within a basic structure to best afford the realization of students' varying professional goals. Students concentrating on selected areas of nursing practice design the clinical component of the core courses in a manner suited to the achievement of their specified goals, but they also participate in seminars with student peers.

The program is three semesters in length for a full-time student in advanced clinical practice and can be completed within one calendar year. Four semesters are required for nursing service administration. Part-time study is available with program completion expected in three years. Clinical facilities and learning resources in the Medical Center and surrounding community are varied and easily accessible.

Curriculum Plan. Advanced clinical practice: First semester: Research and Theory Development in Nursing I (4 units); A Systems Perspective for Nursing, Practice I (5 units); two electives (6 units). Second semester: Research and Theory Development in Nursing II (4 units); A Systems Perspective for Nursing Practice II (5 units); one-two electives and/or thesis (6 units). Third semester: clinical practicum (10 units); elective or thesis (3 units). Nursing Service Administration: Core courses as listed above plus health administration courses and an elective taken over four semesters.

Electives may be nursing or non-nursing courses. A thesis option may be pursued in lieu of 6 units of electives.

Students completing the program will be awarded a Master of Science in Nursing degree and will be prepared to function as clinical specialists or nursing service administrators. For those seeking positions in teaching, an additional semester of courses is available.

Admission Requirements. (1) Bachelor's degree with an upper division major in nursing from a National League for Nursing accredited program; (2) an undergraduate scholastic average of *B* or better; (3) satisfactory performance on the Graduate Record Examination Aptitude Test; (4) an introductory course in descriptive and inferential statistics; (5) registration as a professional nurse in North Carolina; (6) interview.

Dates for Application. An application with all supporting documents must be submitted by 1 August for fall semester admission; 15 November for spring semester admission; 15 March for summer session admission. (Spring and summer part-time study only.)

Tuition and Financial Aid. Tuition is \$220 per unit. A number of federal and merit traineeships are available to qualified students for full-time study.

Appendix

ROSTER OF HOUSE STAFF BY DEPARTMENTS

Anesthesiology

Chief Resident: Robert Evans, D.O. (Coll. of Osteopathic Med., 1979).

Senior Residents: Steve Lipson, M.D. (Louisville, 1979); Betty Johnson, M.D. (West Virginia, 1974); Eileen Steinberger, M.D. (Michigan, 1979).

Senior Assistant Residents: Bruce Baker, M.D. (Michigan, 1979); Gregory Crisp, M.D. (North Carolina at Chapel Hill, 1978); William Greeley, M.D. (Texas at Houston, 1976); Theodore Hoffman, M.D. (North Carolina at Chapel Hill, 1978); David Klein, M.D. (Maryland, 1980); Andrew Meyer, M.D. (New York-Downstate, 1969); Carl Nielsen, M.D. (Univ. of Copenhagen, 1979); Vinit Patil, M.D. (Wisconsin, 1980); Elizabeth Schreiner, M.D. (Duke, 1980); Robert Veselis, M.D. (Univ. of Toronto, 1979).

Junior Residents: Ralph P. Baker, M.D. (Duke, 1980); Richard Moon, M.D. (McGill, 1973); James F. O'Neill, M.D. (Duke, 1980).

Junior Assistant Residents: John Benet, M.D. (South Florida, 1981); Sheryl Dickman, M.D. (Med. Coll. of South Carolina, 1981); Gary Latson, M.D. (Texas A & M, 1981).

Family Medicine

Chief Residents: Richard E. Hoffman, M.D. (Southwestern, 1975); Jonathan D. Quick, M.D. (Rochester, 1979); Sally W. Thompson, M.D. (Rutgers, 1979).

Residents: Marcie A. Angle, M.D. (Duke, 1981); Joyce W. Beitel, M.D. (Rochester, 1979); Richard P. Brunswick, M.D. (New York at Buffalo, 1981); James E. Carroll, M.D. (New York Upstate Med. Ctr., 1980); Andrew T. Chernack, M.D. (Albert Einstein, 1980); C. Mark Costley, M.D. (Missouri, 1981); Paul T. Ebbert, M.D. (Utah, 1980); R. Scott Eden, M.D. (Duke, 1980); Mark T. Eisen, M.D. (Michigan, 1980); Howard T. Eisenson, M.D. (Duke, 1980); Richard A. Elion, M.D. (Temple, 1980); Fred M. Fox, M.D. (New Mexico, 1981); Elizabeth T. Herman, M.D. (Connecticut, 1979); Constance T. Hixson, M.D. (Utah, 1979); Peter D. Jacobi, M.D. (Case Western Reserve, 1979); Peter M. Johns, M.D. (East Carolina, 1981); Karin L. Kempe, M.D. (Rochester, 1981); Carol L. Klein, M.D. (Pittsburgh, 1979); Lawrence Li, M.D. (Columbia, 1979); Thomas E. Matheson, M.D. (Tufts, 1981); Barbara A. Morris, M.D. (Rochester, 1979); Richard S. Nelson, M.D. (Harvard, 1980); James A. Nicholson, M.D. (Pennsylvania, 1981); Patrick T. O'Connor, M.D. (Case Western Reserve, 1979); Daniel E. O'Donnell, M.D. (Georgetown, 1981); Helen M. O'Donnell, M.D. (Albert Einstein, 1980); George R. Parkerson III, M.D. (Duke, 1981); Janet Y. Russell, M.D. (Duke, 1980); Scott L. Smith, M.D. (Utah, 1981); Gary A. Sobelson, M.D. (Columbia, 1981); Jeffrey H. Sonis, M.D. (Pennsylvania, 1980); Frank T. Spence, Jr., M.D. (Duke, 1981); Philip E. Stover, M.D. (Eastern Virginia, 1980); Marla J. Tobin, M.D. (Missouri, 1980); Marci S. Yoss, M.D. (Harvard, 1980).

Fellows: Katherine C. Krause, M.D. (Jefferson, 1978); James L. Michener, M.D. (Harvard, 1978).

Medicine

Chief Residents: Stephen K. Lucas, M.D. (Harvard, 1977); G. Radford Moeller, M.D. (Duke, 1977).

Senior Assistant Residents: Stephen H. Bandeian, M.D. (Harvard, 1978); Caral A. Bocaccino, M.D. (Brown, 1979); Claude S. Burton, M.D. (Duke, 1979); Gregory D. Cascino, M.D. (Rush, 1979);

Darryl B. Cook, M.D. (Utah, 1979); William F. Cunningham, M.D. (Utah, 1979); James L. Deterding, M.D. (Nebraska, 1979); Gregory I. Gabliani, M.D. (Illinois, 1979); Daniel L. Hamilos, M.D. (Northwestern, 1979); Peter W. Heald, M.D. (Duke, 1978); Clair S. Hixson, M.D. (Utah, 1979); Daniel J. Howley, M.D. (Temple, 1979); Andrew M. Keller, M.D. (Ohio, 1979); Andrew B. Littman, M.D. (Emory, 1979); S. Spence McCachren, M.D. (Duke, 1978); Dennis R. McCann, M.D. (Dartmouth, 1979); Mark B. Moeller, M.D. (Dartmouth, 1977); James E. Nordstrom, M.D. (Duke, 1979); Alvin C. Powers, M.D. (Tennessee, 1979); Albert A. Ramage, M.D. (Vanderbilt, 1979); Tracey A. Rouault, M.D. (Duke, 1977); Wayne K. Ruth, M.D. (Duke, 1978); Carol J. Scott, M.D. (Rush, 1979); Susan P. Smith, M.D. (California, San Diego, 1979); Gerald D. Spencer, M.D. (Washington, 1979); Stephanie A. Studenski, M.D. (Kansas, 1979); Michael J. Sullivan, M.D. (Mt. Sinai, 1979); Arthur Tordini, M.D. (Rutgers, 1979); Norman S. Werdiger, M.D. (Cornell, 1977).

Junior Assistant Residents: Robert D. Albertson, M.D. (Michigan, 1980); J. Michael Anchors, M.D. (Miami, 1980); Barbara J. Basuk, M.D. (Duke, 1979); Clark T. Bishop, M.D. (Utah, 1980); David A. Bobak, M.D. (Ohio, 1980); Gregory K. Buller, M.D. (Kansas, 1980); William B. Bunn, M.D. (Duke, 1979); A. Alan Chu, M.D. (Duke, 1980); Thomas M. Coffman, M.D. (Ohio, 1980); C. Christine Cox, M.D. (North Carolina at Chapel Hill, 1980); Madeline Duvic, M.D. (Duke, 1976); Mary F. Earley, M.D. (Duke, 1980); Paul A. Foster, M.D. (Duke, 1980); Robert A. Harrell, M.D. (Johns Hopkins, 1980); Robert A. Harvard, M.D. (California at Los Angeles, 1980); David S. Kayden, M.D. (New York Univ., 1980); Jacquelyn J. Maher, M.D. (Duke, 1979); Rex M. McCallum, M.D. (Vanderbilt, 1980); Randall R. Mercier, M.D. (Tulane, 1980); Michael N. Neuss, M.D. (Duke, 1979); Chalmers M. Nunn, M.D. (Duke, 1980); Douglas L. Packer, M.D. (Utah, 1980); Glenn Pinholster, M.D. (Georgia, 1980); Wayne M. Samuelson, M.D. (Utah, 1980); Michael C. Sneller, M.D. (Kansas, 1979); Douglas J. Sprung, M.D. (Duke, 1980); E. William St. Clair, M.D. (West Virginia, 1980); Thomas W. Sturgill, M.D. (Virginia, 1978); Pierre L. Triozzi, M.D. (Ohio, 1980); Ronald G. Washburn, M.D. (Duke, 1979); Mark D. Weissig, M.D. (Duke, 1980); Douglas J. Willhoite, M.D. (Oklahoma, 1980).

Interns: Peter M. Anderson, M.D. (Mount Sinai, 1981); Roger F. Anderson, M.D. (Duke, 1981); John A. Bartlett, M.D. (Virginia, 1981); Pamela L. Bowe, M.D. (Duke, 1981); Scott R. Brazer, M.D. (Western Reserve, 1981); David J. Browning, M.D. (Duke, 1981); Jeffrey I. Cohen, M.D. (Johns Hopkins, 1981); Philip J. Fracica, M.D. (Brooklyn, Downstate, 1981); Michael A. Friedberg, M.D. (San Antonio, 1981); Edward J. Fudman, M.D. (Duke, 1981); Glen S. Gettinger, M.D. (Emory, 1981); David M. Harlan, M.D. (Duke, 1980); Joanne M. Jordan, M.D. (Johns Hopkins, 1981); Jeffrey R. Joyner, M.D. (Illinois, 1981); Thomas A. Kelly, M.D. (New York Univ., 1981); Paul C. Kleist, M.D. (Med. Coll. of Wisconsin, 1981); Keith D. Knopes, M.D. (Stanford, 1981); Ann M. Lansing, M.D. (Duke, 1981); James T. C. Li, M.D. (Duke, 1981); James C. Lisak, M.D. (Harvard, 1981); Arthur C. Madsen, M.D. (Utah, 1981); Daryl G. Morrical, M.D. (Indiana, 1981); John F. O'Brien, M.D. (Wayne State, 1981); Claire M. Poyet, M.D. (Duke, 1981); William M. Pruett, M.D. (Johns Hopkins, 1981); Jacqueline A. Pugh, M.D. (Texas at San Antonio, 1981); William S. Putnam, M.D. (Duke, 1981); Steven J. Reiter, M.D. (Iowa, 1981); Paul V. Renda, M.D. (Mount Sinai, 1981); K. Lea Sewell, M.D. (Duke, 1980); David L. Simel, M.D. (Duke, 1980); Anthony L. Sintetos, M.D. (Georgetown, 1981); Donald J. Solomon, M.D. (Stanford, 1981); Rita M. Willett, M.D. (Washington Univ., 1981); Candyce D. Williams, M.D. (Tufts, 1981); Robert Zimmerman, M.D. (Johns Hopkins, 1981).

Fellows: Nancy B. Allen, M.D. (Tufts, 1978); George F. Atweh, M.D. (American Univ. of Beirut, 1978); James D. Baker, M.D. (Bowman Gray, 1978); Gust H. Bardy, M.D. (Northwestern, 1977); B. Kumari Batra, Ph.D. (Univ. of Bombay, 1958); David R. Bishop, M.D. (Michigan, 1978); Andrew Bragdon, M.D. (Washington Univ., 1977); B. Alton Brantley, M.D. (Duke, 1978); Robert O. Brennan, M.D. (Virginia, 1978); Archer Broughton, M.D. (Sydney Univ., 1971); Susan Burge, M.D. (Oxford Clin. School, 1975); Gary V. Burton, M.D. (Utah, 1978); Robert M. Califf, M.D. (Duke, 1978); Thomas J. Chaplinski, M.D. (Chicago, 1977); John R. Cohn, M.D. (Jefferson, 1976); Eric H. Conn, M.D. (Duke, 1976); Jeffrey Crawford, M.D. (Ohio, 1974); Leslie J. Curfman, M.D. (Pennsylvania, 1979); Mark S. Currie, M.D. (Southwestern, 1978); Richard M. Dasheiff, M.D. (Maryland, 1976); Joel L. Deitz, M.D. (Tufts, 1977); Richard O. Dolinar, M.D. (New York at Buffalo, 1972); Albert G. Driver, M.D. (Pennsylvania State, 1978); John L. Durand, M.D. (Arizona, 1977); Jonathan L. Elion, M.D. (Brown, 1975); Robert C. Ewing, M.D. (Med. Coll. of Georgia, 1975); Richard Fanelli, Ph.D. (New York at Binghamton, 1981); John Fedor, M.D. (Duke, 1976); Charles E. Garrett, Ph.D. (California, 1979); Deborah C. German, M.D. (Harvard, 1976); Bonnie J. Goodwin, M.D. (Dartmouth, 1977); J. Blake Goslen, M.D. (North Carolina at Chapel Hill, 1973); William Gough, M.D. (Rochester, 1976); David S. Grierson, M.D. (Ohio, 1978); Thomas Guarnieri, M.D. (Johns Hopkins, 1975); Franklin Handel, M.D. (Pennsylvania, 1976); Elizabeth A. Harden, M.D. (Duke, 1977); Kenneth M. Harman, M.D. (West Virginia, 1974); Lindy Harrell, M.D. (Miami, 1977); Robert L. Harrison, M.D. (Texas at Galveston, 1976); M. Alycia Hassett, M.D. (Duke, 1978); Robert L. Heacock, M.D. (Ohio State, 1976); James A. Heinsimer, M.D. (Illinois, 1977); Bruce D. Hettleman, M.D. (Harvard, 1977); Michael B. Higginbotham, M.D. (Univ. of Melbourne, 1973); James J. Hines, M.D. (Northwestern, 1978); Michael K. Hise, M.D. (Michigan, 1974); Mark A. Hlatky, M.D. (Pennsylvania, 1976); Robert L. Huck, M.D. (Washington Univ., 1978); Robert F. Hunter, M.D. (Puerto Rico, 1978); Maxine B. Ingham, M.D. (Med. Univ. of South Carolina, 1976); Richard A. Jackson, M.D. (Ohio, 1976); Stephen M. Johnson, M.D. (Duke, 1978); Thomas L. Johnson, M.D. (Texas, 1977); J. Wesley Jones, M.D. (Duke, 1976); Clark Kerr, M.D. (Univ. of Ottawa, 1978); Stephen J. Klemawesch, M.D. (Alabama, 1974); Paul E. Klotman, M.D. (Indiana, 1976);

Thomas N. Lavin, M.D. (New York Univ., 1977); Cheryl Mahony, M.D. (Duke, 1976); John Manfredi, Ph.D. (Michigan, 1981); Arthur E. Mays, M.D. (New York at Buffalo, 1976); Malcolm McDonald, M.D. (Royal Melbourne, 1973); Andrew A. McLeod, M.D. (Univ. College Hospital, 1974); Jeffrey R. Medoff, M.D. (New York Med. Ctr., 1977); Dale E. Merrell, M.D. (Pennsylvania, 1978); Mary L. Michels, M.D. (Ohio, 1978); Wendy P. Moeller, M.D. (Duke, 1977); Richard E. Moon, M.D. (McGill, 1973); J. Randall Moorman, M.D. (Mississippi, 1978); William N. Newman, M.D. (Duke, 1977); Edward Olender, Ph.D. (New York at Syracuse, 1975); Richard Orlowski, M.D. (Washington Univ., 1978); Charles J. Parker, M.D. (North Carolina at Chapel Hill, 1975); Cynthia S. Payne, M.D. (Med. Coll. of Ohio, 1980); David B. Pryor, M.D. (Michigan, 1976); Martha J. Radford, M.D. (Harvard, 1978); Nelson Rassi, M.D. (Univ. of Gonia, 1974); John W. Regan, Ph.D. (Arizona, 1980); Michael J. Reiter, M.D. (New York at Stony Brook, 1972); Pradip K. Rustagi, M.D. (Ohio State, 1977); Richard Sabina, Ph.D. (Texas A & M, 1979); Michael A. Salvatore, M.D. (Arizona, 1977); Daniel Savage, Ph.D. (Pennsylvania, 1980); Ricky M. Schneider, M.D. (Yale, 1977); Barbara J. Seaworth, M.D. (Washington Univ., 1977); John R. Seaworth, M.D. (Washington Univ., 1976); Rose Shalom, M.D. (Harvard, 1978); Robert S. Siegel, M.D. (George Washington, 1977); Raymond A. Smego, M.D. (New Jersey Med. School, 1978); Ian D. Smith, M.D. (Med. Univ. of South Carolina, 1978); Mark S. Smith, M.D. (Case Western Reserve, 1977); James Sosnowchik, M.D. (Ohio, 1978); Sathyannarayana Srikanta, M.D. (Bangalore Med. Coll., 1978); Yogambal Srinivasan, Ph.D. (India Inst. of Science, 1977); Richard S. Stack, M.D. (Wayne State, 1976); Jeffrey Stadel, Ph.D. (Pennsylvania, 1977); Catherine Strader, Ph.D. (California Inst. of Tech., 1980); William R. Taylor, M.D. (Alabama, 1978); Stephen M. Teague, M.D. (Illinois, 1977); Marilyn J. Telen, M.D. (New York Univ., 1977); Nicholas Thomas, Ph.D. (Univ. of Wales, 1981); Joey Trantham, M.D. (Duke, 1976); Jeffrey Vance, Ph.D. (Indiana, 1979); Peggy Vance, Ph.D. (North Carolina at Chapel Hill, 1978); George R. Vandenbark, M.D. (Ohio State, 1978); Egerton Van den Berg, M.D. (Duke, 1981); Ronald G. Victor, M.D. (Tulane, 1978); Richard Wertz, Ph.D. (Tennessee, 1978); Paul C. Whitesides, M.D. (Med. Univ. of South Carolina, 1977); Seth J. Worley, M.D. (Temple, 1978); Larry Yamaoka, Ph.D. (Oregon, 1972); James R. Yankaskas, M.D. (Connecticut, 1978).

DIVISION OF DERMATOLOGY

Robert P. Alberg, M.D. (Rochester, 1978); Robert B. Johnson, M.D. (Duke, 1978); William B. Lide, M.D. (Johns Hopkins, 1978); John C. Murray, M.D. (Duke, 1977); Elise A. Olsen, M.D. (Baylor, 1978); Elizabeth F. Sherertz, M.D. (Virginia, 1978); David N. Tashjian, M.D. (Baylor, 1980); and Elise A. Weinrich, M.D. (South Carolina, 1978).

DIVISION OF NEUROLOGY

Robert E. Albright, M.D. (Pennsylvania State, 1979); C. Edward Coffey, M.D. (Duke, 1979); Joseph A. Jabaily, M.D. (Case Western Reserve, 1979); Benjamin Mark, M.D. (New Jersey Med. School, 1976); Janice M. Massey, M.D. (Georgetown, 1978); Virginia Pact, M.D. (Karolinska Inst., 1977); Nancy Post, M.D. (Duke, 1979); Rodney A. Radtke, M.D. (Northwestern, 1980); Donald E. Schmechel, M.D. (Harvard, 1974); Cheolsu Shin, M.D. (Alabama, 1977); Ernest R. Somerville, M.D. (Univ. of Sydney, 1977).

Obstetrics and Gynecology

Chief Residents: Michelle R. Dudzinski, M.D. (Boston, 1978); Timothy F. Edwards, M.D. (Bowman Gray, 1978); Andrew Haven, M.D. (North Carolina at Chapel Hill, 1978); Vanessa Haygood, M.D. (Harvard, 1978); Margaret T. Dydek, M.D. (Duke, 1978).

Assistant Residents: Lawrence C. Bandy, M.D. (Duke, 1977); James F. Barter, M.D. (Virginia, 1977); Dale Bearman, M.D. (Tufts, 1981); Janice Bird, M.D. (Duke, 1980); David Chestnut, M.D. (Alabama, 1978); Neeoo Chin, M.D. (Ohio State, 1981); William C. Dodson, M.D. (Temple, 1980); Iris E. Dominy, M.D. (Albany Med. Coll., 1980); Charles O. Harris, M.D. (North Carolina at Chapel Hill, 1979); David Henderson, M.D. (Med. Coll. of Virginia, 1981); Claude Hughes, M.D. (Duke, 1976); Michael R. Land, M.D. (Indiana, 1980); Joanne Piscitelli, M.D. (Duke, 1980); Ellen T. Puleo, M.D. (Duke, 1979); Joel G. Puleo, M.D. (Duke, 1979); James Rice, M.D. (California, 1981); Kenneth F. Trofatter, M.D. (Duke, 1979); Robert Van Dale, M.D. (Duke, 1979); Ruthann T. Zern, M.D. (Duke, 1979).

Ophthalmology

Chief Residents on rotating basis.

Residents: George S. Ellis, Jr., M.D. (Tulane, 1977); James A. Salisbury, M.D. (Tulane, 1977); Thomas L. Beardsley, M.D. (Duke, 1977).

Assistant Residents: John E. Bourgeois, M.D. (Virginia, 1979); James A. Knupp, M.D. (Ohio, 1978); Christine C. Nelson, M.D. (Cincinnati, 1979); Lawrence Quist, M.D. (Minnesota, 1977); Michael Rotberg, M.D. (Duke, 1979); Howard N. Short, M.D. (St. Louis, 1978); Ann B. Sowers, M.D. (Med. Coll. of Virginia, 1979); S. Scott Stapleton, M.D. (North Carolina at Chapel Hill, 1980); Walter Wright, M.D. (North Carolina at Chapel Hill, 1980).

Pathology

Residents: John L. Abernethy, M.D., Ph.D. (Duke, 1980); Renata Albrecht, M.D. (Duke, 1980); Robert Anthony, M.D., Ph.D. (Case Western Reserve, 1980); William Bell, M.D. (Duke, 1978); Kim Boekelheide, M.D., Ph.D. (Duke, 1980); J. Hartley Bowen, M.D. (Jefferson Med. Coll., 1977); Gerald A. Campbell, M.D., Ph.D. (Texas Southwestern, 1977); Timothy J. Clark, M.D. (Duke, 1981); Barbara Crain, M.D., Ph.D. (Duke, 1979); Eric Decker, M.D. (Rochester, 1978); John Edgar, M.D., Ph.D. (Duke, 1978); Andrea Hackel, M.D. (Duke, 1981); Kuo-Jang Kao, M.D., Ph.D. (National Taiwan Univ., 1974); Jesse T. Lee, M.D. (Duke, 1980); Steven Levine, M.D. (Indiana, 1978); James Linder, M.D. (Nebraska, 1980); Henry Marrow, M.D. (Duke, 1978); Gregg A. Olsen, M.D. (Utah, 1980); Dennis Ose, M.D., Ph.D. (Duke, 1978); Alan Proia, M.D., Ph.D. (Cornell, 1980); Charles Steenberg, M.D., Ph.D. (Pennsylvania, 1978); Robert Stein, M.D., Ph.D. (Duke, 1979); Joseph A. Tucker, M.D. (Vanderbilt, 1981); Paul N. Valenstein, M.D. (Illinois, 1981); Joseph Vogel, M.D. (Duke, 1978); Charles Wisseman, M.D. (Pennsylvania, 1975); John Wolfe, M.D. (Michigan, 1980).

Fellows: Rodney McComb, M.D. (Rochester, 1976); Mark Shifman, M.D. (Med. Coll. of Ohio, 1978); Cheryl Spzak, M.D. (Southwestern, 1977); Kenneth Widder, M.D. (Northwestern 1979).

Pediatrics

Chief Resident: Deborah Squire, M.D. (Northwestern, 1978).

Third Year Residents: William L. Coleman, M.D. (New Mexico, 1979); Marvin L. Dixon, M.D. (Harvard, 1979); Lester J. Fahrner, M.D. (Illinois, 1979); Andrea R. Gravatt, M.D. (Pittsburgh, 1979); Carla H. Ingold, M.D. (North Carolina at Chapel Hill, 1979); Ross E. McKinney, M.D. (Rochester, 1979); Christopher A. Miller, M.D. (Connecticut, 1979); Daryl H. O'Brien, M.D. (Dartmouth, 1979); Robert J. Rogers, M.D. (Southwestern, 1979).

Second Year Residents: Paul Boepple, M.D. (Vermont, 1980); Timothy Bohan, M.D. (Miami, 1980), Ph.D. (Tulane, 1976); Sara Chaffee, M.D. (Dartmouth, 1980); James DeMasi, M.D. (Albany, 1980); James Grant, M.D. (Duke, 1980), Earl Hampton, M.D. (Baylor, 1980); Al Hergenroeder, M.D. (Pittsburgh, 1980); Charles Hoffbauer, M.D. (Wayne State, 1980); Frederick Leickly, M.D. (Western Reserve, 1980); Mark Levine, M.D. (Kentucky, 1980); Barry Marx, M.D. (Maryland, 1980); Hugh Powell, M.D. (Eastern Virginia, 1980).

First Year Residents: Doug Hamill, M.D. (Washington, 1981); Verena Jorgensen, M.D. (Duke, 1981); Leigh Lehan, M.D. (North Carolina at Chapel Hill, 1981); Dana Matthews, M.D. (Washington, 1981); Stacy Month, M.D. (Pennsylvania, 1981); Robin Nuskind, M.D. (New Mexico, 1981); Bryan Ohning, M.D. (Western Reserve, 1981), Ph.D. (Western Reserve, 1981); Margaret Oxtoby, M.D. (Western Reserve, 1981); Luisa Portal, M.D. (Virginia, 1981); Thomas Sena, M.D. (Albany, 1981); J. Michael Vollers, M.D. (Texas at Houston, 1981); John Wagner, M.D. (Jefferson, 1981).

Fellows: David Auerbach, M.D. (Albert Einstein, 1974); Teresa Brennan, M.D. (Johns Hopkins, 1978); Patricia Cannon, M.D. (Duke, 1977); William Cassano, M.D. (Duke, 1977); John Frank, M.D. (Tufts, 1975); Michael Freemark, M.D. (Duke, 1976); Henry Friedman, M.D. (New York Upstate, 1977); Pamela Griffin, M.D. (Mississippi, 1978); Collette Gushurst, M.D. (Loyola, 1977); Jeffery Jennings, M.D. (Tennessee, 1976); Joanne Kurtzberg, M.D. (New York Med. Coll., 1976); Sharon Lail, M.D. (Med. Coll. of Virginia, 1977); Peter LoGalbo, M.D. (New York at Stonybrook, 1978); Lawrence Pincus, M.D. (New York Med. Coll., 1976); Michael Ruff, M.D. (Texas at Galveston, 1978); Richard Schiff, M.D. (Duke, 1976), Ph.D. (Duke, 1976); Robin Shanahan, M.D. (Wisconsin, 1978); Corry Sibrack, M.D. (Michigan, 1976); Lawrence Sindel, M.D. (Louisiana State, 1978); Andreas Walchner, M.D. (Washington Univ., 1967); Robert Warren, M.D., Ph.D. (Washington Univ., 1978); Alan Woolf, M.D. (Chicago, Pritzker, 1976).

Psychiatry

Chief Residents: Gary Henschen, M.D. (North Carolina at Chapel Hill, 1975); John Urbach, M.D. (Michigan, 1977); Jim Wells, M.D. (North Carolina at Chapel Hill, 1976).

Residents: Nasiha Ahmad, M.D. (Dacca, 1972); Jack Barber, M.D. (Texas at San Antonio, 1981); Stephen Barnes, M.D. (Duke, 1980); Mary Berman, M.D. (Michigan, 1977); Leigh Bishop, M.D. (Texas, 1980); Joe Broderson, M.D. (Kentucky, 1972); Owen Buck, M.D. (Vermont, 1978); Robert Bunge, M.D. (Rockford, 1978); Susan Campbell, M.D. (South Carolina, 1978); Manjusri Chatterjee, M.D. (Univ. of Calcutta, 1974); Randall Christenson, M.D. (Creighton, 1977); Lindsay Clarkson, M.D. (Duke, 1978); Sandra Cohen, M.D. (New York, 1978); David Colvard, M.D. (Duke, 1978); Joseph Cools, M.D. (Michigan, 1979); Clifford Cornette, M.D. (Southwestern, 1981); Wilhelmina DeMarchi, M.D. (Univ. of Amsterdam, 1979); Douglas Finestone, M.D. (Virginia, 1978); Bennett Garner, M.D. (Loyola-Stritch, 1977); Ted George, M.D. (Bowman Gray, 1977); Mark Glenn, M.D. (North Carolina at Chapel Hill, 1978); Edward Goldenberg, M.D. (Kentucky, 1981); Candis Grace, M.D. (Duke, 1981); Bonny Gregory, M.D. (Georgia, 1977); Henry Horacek, M.D. (North Carolina at Chapel Hill, 1978); Frederick Irons, M.D. (North Carolina at Chapel Hill, 1977); Pem Kahler, M.D. (North Carolina at Chapel Hill, 1980); Michael Kahn, M.D. (Duke, 1978); Gregory Khoury, M.D. (Texas at San Antonio, 1980); Elizabeth King, M.D. (Duke, 1958); Ranga Krishnaswamy (Krishnan), M.D. (Univ. of Madras, 1978); Michael

Larson, M.D. (Manila, 1979); Gordan Lavin, M.D. (Case Western, 1977); James Lee, M.D. (Duke, 1978); Mike Lyles, M.D. (Michigan, 1978); Richard Marciniak, M.D. (Michigan, 1981); James McCracken, M.D. (Baylor, 1980); Mary McMahan, M.D. (South Carolina, 1980); Mark Miller, M.D. (New York at Stony Brook, 1981); Alan Nelson, M.D. (Loma Linda, 1979); Michael O'Boyle, M.D. (Mississippi, 1981); Munira Padamsee, M.D. (Univ. of Bombay, 1974); Peter Perault, M.D. (Vermont, 1977); Ingrid Pisetsky, M.D. (New York, 1971); Eric Reiman, M.D. (Duke, 1980); Don Ross, M.D. (Michigan, 1977); Renée Schoenfeld, M.D. (Illinois, 1974); Lorraine Sharon, M.D. (Texas, 1979); Kim Sherrill, M.D. (Texas, 1980); Mick Storck, M.D. (Ohio, 1980); Daniel Sullivan, M.D. (Vermont, 1970); Marvin Swartz, M.D. (Tufts, 1980); David Talley, M.D. (California at San Diego, 1980); Sam Thielman, M.D. (Duke, 1980); Marcia Valenstein, M.D. (Illinois, 1981); Indira Varia, M.D. (India, 1968); Ronald Vereen, M.D. (Duke, 1981); Joel Vogt, M.D. (Texas A & M, 1981); Michael Webb, M.D. (Texas at San Antonio, 1981); Jim Whitman, M.D. (Wisconsin, 1977).

Radiology

Residents: George Adams, M.D. (North Carolina at Chapel Hill, 1981); Jerry Apple, M.D. (Duke, 1978); Andrew Beloni, M.D. (Rutgers, 1978); Samuel Buff, M.D. (Duke, 1978); Glenn Butt, M.D. (Illinois, 1980); Maitland Deland, M.D. (Florida, 1978); Dale Duncan, M.D. (South Carolina, 1979); Peter Fedyshin, M.D. (Hershey, 1976); Alan Fein, M.D. (Columbia, 1978); Nicholas Frankel, M.D. (Virginia, 1975); David Handel, M.D. (Hahnemann, 1980); Barbara Hertzberg, M.D. (Duke, 1980); Michael Hewitt, M.D. (Rochester, 1978); Norman Jacobs, M.D. (Temple, 1978); Marc Kaminsky, M.D. (Cornell, 1974); Gerald Lourie, M.D. (Duke, 1981); Charles Maile, M.D. (Michigan, 1979); Phillip Massey, M.D. (Maryland, 1978); Leonard Mastrodomenico, M.D. (New Jersey, 1980); Shane McAlister, M.D. (Duke, 1979); Eric McClees, M.D. (Duke, 1978); Thomas McCook, M.D. (Florida, 1978); Dale Nance, M.D. (Baylor, 1976); Thomas Neumann, M.D. (Texas at Galveston, 1980); Glenn Newman, M.D. (Duke, 1973); Bryan Peters, M.D. (Duke, 1981); Gordon Randall, M.D. (Tennessee, 1978); Kenneth Riley, M.D. (Duke, 1980); Margaret Robinson, M.D. (Washington Univ., 1977); Scott Rosenbloom, M.D. (Hahnemann, 1980); Michael Ross, M.D. (Northwestern, 1979); Tony Smith, M.D. (East Carolina, 1981); Charles Stricker, M.D. (Washington Univ., 1978); Catherine Suslavich, M.D. (Duke, 1977); Frank Suslavich, M.D. (Duke, 1977); Janet Szabo, M.D. (North Carolina at Chapel Hill, 1979); David Tempkin, M.D. (Texas Southwestern, 1978); Jefferson Trupp, M.D. (Florida, 1980); Diana Voorhees, M.D. (Pennsylvania, 1981); David Warner, M.D. (Northwestern, 1978); Mary Warner, M.D. (Northwestern, 1979); Linda Wellner, M.D. (Pennsylvania, 1976); Kenneth Williams, M.D. (Duke, 1978).

Surgery

DIVISIONS OF GENERAL AND CARDIO-THORACIC SURGERY

Instructors and Teaching Scholars: Charles H. Edwards, M.D. (North Carolina at Chapel Hill, 1973); W. Peter Graper, M.D. (McMaster, 1973); Thomas H. Marsicano, M.D. (Ohio, 1973).

Instructors and Chief Residents: John B. Hanks, M.D. (Rochester, 1973); Jon F. Moran, M.D. (Washington Univ., 1973); Jeffrey A. Norton, M.D. (Upstate Med. Ctr., 1973); Worthington G. Schenk, M.D. (Duke, 1974); Peter M. Scholz, M.D. (Basel, 1970); Thomas L. Spray, M.D. (Duke, 1974); Robert L. R. Wesley, M.D. (Duke, 1975).

Research Fellows: Thomas D. Christopher, M.D. (Duke, 1981); James M. Douglas, Jr., M.D. (Duke, 1978); Sam T. Dove, M.D. (Duke, 1981); Thomas B. Ferguson, Jr., M.D. (St. Louis, 1979); Richard D. Floyd, M.D. (Duke, 1978); John R. Frame, M.D. (St. Louis, 1979); Philippe Gersbach, M.D. (Univ. of Lausanne, 1971); William L. Holman, M.D. (Cornell, 1978); Masatoshi Ikeshita, M.D. (Nippon Med. School, 1970); Gregory J. Jurkovich, M.D. (Minnesota, 1978); Warren J. Kortz, M.D. (Colorado, 1979); James M. Levett, M.D. (Iowa, 1974); Kapauner Lewis, M.D. (Duke, 1981); Peter Neglen, M.D. (Sweden, 1976); Michael K. Pasque, M.D. (Oklahoma, 1978); Paul Penn, M.D. (Duke, 1981); Jose Perez, M.D. (Central Univ. of Venezuela, 1968); Richard J. Peterson, M.D. (Mayo, 1979); Douglas S. Reintgen, M.D. (Duke, 1979); Stephen K. Rerych, M.D. (Columbia, 1974); Lary A. Robinson, M.D. (Washington Univ., 1972); Mikael Romanus, M.D. (Univ. of Gothenburg, 1972); Laurence H. Ross, M.D. (Case Western Reserve, 1979); Bruce Schirmer, M.D. (Duke, 1978); Kazuo Shimizu (Nippon Med. School, 1971); Peter K. Smith, M.D. (Duke, 1977); Hiroharu Tanaka, M.D. (Nippon Med. School, 1978); George S. Tyson, Jr., M.D. (Duke, 1978); Ru-gang Zhang, M.D. (Shanghai First Med. Coll., 1960).

Senior Assistant Residents: L. George Alexander, M.D. (Duke, 1973); Erle H. Austin, M.D. (Harvard, 1974); W. Randolph Chitwood, Jr., M.D. (Virginia, 1974); Charles E. Cox, M.D. (Utah, 1975); Ronald C. Hill, M.D. (West Virginia, 1974); Richard A. Hopkins, M.D. (Duke, 1974); J. Dirk Iglehart, M.D. (Harvard, 1975); Robert N. Jones, M.D. (Rush Med. Coll., 1976); Gary K. Lofland, M.D. (Boston, 1975); Richard L. McCann, M.D. (Cornell, 1974); William C. Meyers, M.D. (Columbia, 1975); Craig O. Olsen, M.D. (Utah, 1976); Robert B. Peyton, M.D. (New York, 1977); Arthur Ross III, M.D. (Case Western Reserve, 1975); James D. Sink, M.D. (Bowman Gray, 1975); Peter M. Thurlow, M.D. (Harvard, 1977); Ross M. Ungerleider, M.D. (Chicago, 1977); Peter Van Trigt, M.D. (Tulane, 1977); J. Mark Williams, M.D. (Duke, 1976).

Assistant Residents: David E. Attarian, M.D. (Duke, 1980); Robert A. Bertram, M.D. (Kentucky, 1980); Michael W. Brown, M.D. (Northwestern, 1980); Jeffrey L. Creasy, M.D. (North Carolina at Chapel Hill, 1980); Ralph J. Damiano, M.D. (Duke, 1980); Dennis P. Devito, M.D. (Washington Univ., 1980); David J. Dries, M.D. (Chicago, 1980); Berrylin J. Ferguson, M.D. (Duke, 1980); Kevin J. Gassner, M.D. (Wisconsin, 1980); Donald D. Glower, M.D. (Johns Hopkins, 1980); John A. Nesbitt II, M.D. (Louisville, 1980); William J. Richardson, M.D. (Eastern Virginia Med. School, 1977); John A. Spratt, M.D. (Washington Univ. 1980); Elaine Verneti, M.D. (Oregon, 1980); Walter B. Vernon, M.D. (Harvard, 1980); Karen Yates, M.D. (Missouri, 1980); Craig D. Zippe, M.D. (Rush Med. Coll., 1980).

First Year Residents: James B. Billys, M.D. (Jefferson Med. Coll., 1981); Michael J. Bolesta, M.D. (Missouri, 1981); Peter R. Bronec, M.D. (Duke, 1981); Stephen D. Campanella, M.D. (Jefferson Med. Coll., 1981); Clinton B. Davis II, M.D. (Duke, 1981); Michael L. Goodman, M.D. (Pittsburgh, 1981); Michael W. Hendricks, M.D. (Florida, 1981); Susan James, M.D. (Duke, 1981); Leo A. Kulick, M.D. (Case Western Reserve, 1981); Susan C. Lottich, M.D. (Duke, 1981); John F. Lucas, M.D. (Duke, 1981); Jay D. Mabrey, M.D. (Cornell, 1981); David M. Mahvi, M.D. (South Carolina, 1981); M. Anne McKnight, M.D. (Duke, 1981); James J. Morris, M.D. (Duke, 1981); Francis S. Rotolo, M.D. (Michigan, 1981); B. Dale Russell, M.D. (Duke, 1981); Kent W. Small, M.D. (Tulane, 1981); Eric D. Weber, M.D. (New York-Upstate Med. Ctr., 1981); Edward J. Whelan III, M.D. (Georgia, 1980).

DIVISION OF NEUROSURGERY

Instructors and Chief Residents: James Blue, M.D. (Georgia, 1975); Dennis E. Bullard, M.D. (St. Louis, 1975).

Assistant Residents: Eben Alexander III, M.D. (Duke, 1980); Bennett Blumenkopf, M.D. (Boston, 1976); Brian Brophy, M.D. (Melbourne Univ., 1971); Alfred C. Higgins, M.D. (Georgetown, 1977); Robert P. Iacono, M.D. (Southern California, 1978); John J. Moossy, M.D. (Tulane, 1980); Joseph H. Piatt, Jr., M.D. (Pennsylvania, 1979); Stephen Saris, M.D. (Boston Univ., 1979); Steven J. Schiff, M.D. (Duke, 1980); George Vavoulis, M.D. (Minnesota, 1977); Jeffrey S. Walker, M.D. (Texas at Houston, 1979).

DIVISION OF ORAL SURGERY

Instructor and Chief Resident: Anthony R. Immediata, M.D. (Pennsylvania, 1978).

Assistant Residents: William D. Fox, D.D.S. (Tennessee, 1977); Charles McNamara, D.M.D. (Tufts, 1979); Wilbur M. Riddle, D.D.S. (Med. Coll. of Virginia, 1968).

DIVISION OF ORTHOPAEDIC SURGERY

Instructors and Chief Residents: James Aronson, M.D. (Pittsburgh, 1975); Donald K. Bynum, M.D. (Texas at Houston, 1976); Robert D. Fitch, M.D. (Duke, 1976); William E. Garrett, Jr., M.D. (Duke, 1976); Stephen B. Lowe, M.D. (North Carolina at Chapel Hill, 1976); Stephen Milliner, M.D. (Univ. of Witwatersrand, 1969); Paul V. Spiegl, M.D. (Wisconsin, 1976).

Assistant Residents: Rick F. Alden-Pospisal, M.D. (South Carolina, 1978); Ned B. Armstrong, M.D. (Jefferson, 1977); Samuel I. Brown, M.D. (Virginia, 1979); Allen L. Bucknell, M.D. (Albany Med. Coll., 1973); Peter D. Burge, M.D. (Oxford Univ., 1971); John A. Byrd III, M.D. (Med. Coll. of Virginia, 1978); Paul B. Chaplin, M.D. (New York Med. Coll., 1979); Todd M. Chapman, M.D. (Bowman Gray, 1979); Gregg E. Cregan, M.D. (Jefferson Med. Coll., 1978); Thomas A. Dimmig, M.D. (Duke, 1976); David M. Drvaric, M.D. (Emory, 1978); Timothy F. Dutra, M.D. (Southern California, 1972); Wade H. Fleenor, Jr., M.D. (Tennessee, 1958); Jacqueline M. Fogarty, M.D. (Albany, 1974); Robert D. Francis, M.D. (Duke, 1977); John E. Herzenberg, M.D. (Boston Univ., 1979); David D. Kyzer, M.D. (Case Western Reserve, 1978); Neville A. Lewis, M.D. (Cincinnati, 1976); Carey W. McKain, M.D. (Duke, 1976); Vincent S. Mosca, M.D. (Rochester, 1979); Eric R. Oser, M.D. (Louisiana, 1979); William O. Reed, Jr., M.D. (Missouri, 1977); Michael M. Romash, M.D. (Temple, 1974); James H. Roth, M.D. (Univ. of Western Ontario, 1971); Eric F. Sabety, M.D. (Columbia, 1974); Joseph F. Slade III, M.D. (Connecticut, 1979); Christopher E. Smith, M.D. (Duke, 1976); W. Howard Tiller, M.D. (Duke, 1978); W. Timothy Ward, M.D. (Pittsburgh, 1977); William N. Wessinger, M.D. (South Carolina, 1973); Richard L. Wolman, M.D. (New York, 1979).

DIVISION OF OTOLARYNGOLOGY

Instructors and Chief Residents: Beverly J. Adams, M.D. (Duke, 1976); Andrew Brown III, M.D. (Mississippi, 1976); William J. Hall, M.D. (Louisville, 1977).

Assistant Residents: Gerald S. Gussack, M.D. (Georgia, 1979); Mark R. Hanabury, M.D. (Med. Coll. of Virginia, 1978); Jay L. Lucas, M.D. (Med. Coll. of South Carolina, 1979); Al Windham, M.D. (Mississippi, 1979).

Research Fellow: Bjorn Carlborg, M.D. (Univ. of Lund, 1973).

DIVISION OF PLASTIC AND MAXILLOFACIAL SURGERY

Instructors and Chief Residents: Oscar G. Bascug, M.D. (Santo Tomas, Philippines, 1967); David J. Goodkind, M.D. (Duke, 1975).

Assistant Residents: Bruce W. Brewer, M.D. (New York-Downstate Univ., 1975); Marlin L. Dimond, M.D. (George Washington, 1975); Michael L. Farkas, M.D. (Univ. of Zurich, 1974); Howard

W. Klein, M.D. (Louisville, 1977); Carl H. Manstein, M.D. (Temple, 1976); Carlos R. Planell, M.D. (Zaragoza Med. School, 1975); Vincent E. Voci, M.D. (Louisville, 1974).

Research Fellow: Leonardo C. Dias, M.D. (Federal Univ. of Rio de Janeiro, 1976).

DIVISION OF UROLOGIC SURGERY

Instructors and Chief Residents: Gerald H. Lin, M.D. (National Taiwan Univ., 1973); W. Marston Linehan, M.D. (Oklahoma, 1974); Sigmund I. Tannenbaum, M.D. (Duke, 1975).

Assistant Residents: Paul W. F. Coughlin, M.D. (North Carolina at Chapel Hill, 1978); Fred E. Govier, M.D. (Nebraska, 1979); G. Byron Hodge, M.D. (Duke, 1977); Richard B. Koefoot, Jr., M.D. (Nebraska, 1977); Gordon L. Mathes, Jr., M.D. (Tennessee, 1976); Richard J. Mynatt, M.D. (Tennessee at Memphis, 1977); Tom E. Nesbitt, Jr., M.D. (Georgetown, 1978); Cary N. Robertson, M.D. (Tulane, 1977).

Research Fellows: Amid S. ElMahrousky, M.Sc. (Tanta Univ., 1979); Sam D. Graham, Jr., M.D. (Virginia, 1974); Cesare Selli, M.D. (Univ. of Pisa, 1974).



Roster of Students

Class of 1982

Ackerman, Richard John (Furman), Sumter, South Carolina
Anderson, Donna Grey (William & Mary), Lumberton, North Carolina
Anderson, Scott Joseph (California at San Diego), Long Beach, California
Austin, Michael (Emory), Chamblee, Georgia
Barden, Graham Arthur, III (Duke), New Bern, North Carolina
Bell, Edwin Lillington (Duke), New Bern, North Carolina
Bertics, Gregory M. (Duke), East Brunswick, New Jersey
Blatchford, James W., III (Duke), Newtown Square, Pennsylvania
Bledsoe, Robert Eugene, Jr. (Mississippi), Greenville, Mississippi
Bounous, Christine Graham (Duke), Durham, North Carolina
Bowring, Margaret Ann (Wellesley), Durham, New Hampshire
Broadhead, Walter (Davidson), Charleston, West Virginia
Browder, Timothy Marshall (Wake Forest), Charlotte, North Carolina
Browne, Paul C. (North Carolina at Chapel Hill), Winston-Salem, North Carolina
Burge, William R. (Paine), Farmville, North Carolina
Caffrey, William Daniel, Jr. (Duke), Greensboro, North Carolina
Calcagno, David (Tufts), Cos Cob, Connecticut
Califf, James Christopher (South Carolina), Columbia, South Carolina
Campbell, Cyd Patrice (Clark), St. Petersburg, Florida
Campbell, Elizabeth Estill (Duke), Chapel Hill, North Carolina
Cance, William George (Duke), Asheville, North Carolina
Cantrell, Joyce A. (Florida), Jacksonville, Florida
Carlson, Alan Neil (Duke), Newburgh, Indiana
Chantry, Caroline Jean (Iowa), Omaha, Nebraska
Christopher, Thomas David (Duke), Huntington, New York
Clardy, Elizabeth Anne (Brown), Arlington, Virginia
Cooper, Carnell (Yale), Dillon, South Carolina
Cox, David Allan (Harvard), Louisville, Kentucky
Cunningham, Scott Lance (Massachusetts Inst. of Technology), Newburgh, New York
Curiel, Tyler J. (Georgia), Douglasville, Georgia
Dedwylder, Rosier Davis (Virginia), Hamilton, Georgia
Dent, Georgette (Duke), Raleigh, North Carolina
DiCostanzo, Damian Paul (Dartmouth), Canton, Massachusetts
Dodson, William Warnick, III (Emory), Atlanta, Georgia
Dove, Samuel Tyrone (Duke), Raleigh, North Carolina
Early, Terrence Stephen (Missouri), Edina, Missouri
Ellwood, Hilary Kate (North Carolina State), Raleigh, North Carolina
Emery, Sanford Emil (Dartmouth), Selkirk, New York
Epstein, Ann R. (Harvard-Radcliffe), Brookline, Massachusetts
Ferre, Edwin Louis (Davidson), Haddonfield, New Jersey
Fram, Evan (Cornell), Aspen, Colorado
Frothingham, Richard (Massachusetts Inst. of Technology), Little Rock, Arkansas
Gagliano, Martha E. (Radcliffe), Belvedere, California
Gilliam, Francis Roosevelt (Georgia), Lancaster, South Carolina
Gore, Ira, Jr. (Harvard), Rochester, New York
Grote, Thomas Howard (North Carolina at Chapel Hill), Charlotte, North Carolina
Gruber, James Edmond (Dartmouth), Bedford, New York
Gutmann, Katherine B. (Wisconsin), Janesville, Wisconsin
Halverson, James Ramsay (California-Los Angeles), Highland, California
Harris, Stuart I. (Duke), Miami, Florida
Haug, Craig Eric (Duke), Normandy Beach, New Jersey
Haworth, Charles S. (Guilford), High Point, North Carolina
Herzog, William Raymond, Jr. (Duke), Ellicott City, Maryland
James, Susan Dara (Duke), Durham, North Carolina
Janick, Peter A. (Cornell), West Lafayette, Indiana
Kappa, Rosanne D. Pollack (Yale), Dayton, Ohio
Kernstine, Kemp Howard (Duke), Fayetteville, North Carolina
Kinney, Robert Bruce (Wheaton), Elgin, Illinois
Kirschner, Greg Kenneth (Northwestern), North East, Pennsylvania
Kondis, Deborah Jean (Cornell), Munhall, Pennsylvania
Kopitsky, Robert Gene (Emory), St. Louis, Missouri
Leidy, Lu Ann (Virginia), Lansdale, Pennsylvania

Levine, Steven Jan (California-San Diego), Northridge, California
 Lewis, Kapauner Ramona (South Carolina), Columbia, South Carolina
 Lightner, Virginia (Massachusetts Inst. of Tech.), Santurce, Puerto Rico
 Lourie, Gary (Duke), Syracuse, New York
 Maier, George W. (Loyola), Baltimore, Maryland
 Mainwaring, Richard D. (Duke), Center Valley, Pennsylvania
 Markert, Mary L. (Smith), Ogdensburg, New York
 Martin, Joseph Henry, Jr. (Howard), Durham, North Carolina
 McCarley, Meda Elizabeth (Kansas), Dallas, Texas
 McCrae, Keith Randall (Dartmouth), Cumberland Foreside, Maine
 McGowan, Lynn Coppage (Brown), Madison, Connecticut
 McNeill, Diana Bures (Duke), St. Petersburg, Florida
 McVicar, John Patrick (Wesleyan), Broomfield, Colorado
 Michael, Gina Lucette (Missouri-Columbia), St. Louis, Missouri
 Miller, Timothy James (Dartmouth), Racine, Wisconsin
 Morgello, Susan (Massachusetts Inst. of Tech.), Bronx, New York
 Murphy, Charles Edmond, Jr. (Loyola), Atlanta, Georgia
 Nile, Peggy Leigh (Union), Oneonta, New York
 Ormsby, Alice Marie (Stanford), Milwaukie, Oregon
 Ornstein, Steven M. (Dartmouth), Wantagh, New York
 Page, Susan Carol (Duke), Raleigh, North Carolina
 Paull, Douglas Edward (Duke), Dayton, Ohio
 Pin, Paul Gordon (Duke), College Park, Maryland
 Price, Julie (Duke), Woburn, Massachusetts
 Ralston, Matthew Dean (Dartmouth), Clarksdale, New Jersey
 Rowley, Katherine M. (Randolph-Macon), Virginia Beach, Virginia
 Rowley, Richard F. (Harvard), Albany, New York
 Russell, Byron Dale (Duke), Durham, North Carolina
 Sasso, Robert Anthony (Seton Hall), Harrison, New Jersey
 Saul, Jerome Philip (Duke), Atlanta, Georgia
 Schultz, Leslie Anne (Duke), Brielle, New Jersey
 Schwartz, Gregory Glenn (Brown), Jackson Heights, New York
 Schwartz, Michael Alan (Duke), Charleston, West Virginia
 Shekelle, Paul Gordon (Illinois), Oak Park, Illinois
 Shelton, Raymond Alan (North Carolina at Chapel Hill), Burlington, North Carolina
 Siegel, Carol Deborah (Massachusetts Inst. of Technology), Williamsburg, Virginia
 Smith, Wilburn Jackson (North Carolina at Chapel Hill), Raleigh, North Carolina
 Spitz, Susan Ina (Radcliffe), Plainview, New York
 Susskind, Mark Richard (Duke), Fairmont, West Virginia
 Tarpey, Margaret Mary (California-Riverside), San Francisco, California
 Vogel, Patrick Michael (Duke), Durham, North Carolina
 Walsh, Cathleen Stewart (California at Los Angeles), Santa Monica, California
 Warren, Jeffery Steven (Yale), Salisbury, North Carolina
 Watson, William B. (Duke), Glen Ridge, New Jersey
 Weir, Samuel Gamble, III (Davidson), Charlotte, North Carolina
 White, Richard Donald (Hamilton), Burnt Hills, New York
 Woodruff, William Walter (North Carolina at Chapel Hill), Lexington, North Carolina
 Wu, Lawrence Reginald (Williams College), Rochester, New York
 Yen, Tien-Sze (Stanford), Palo Alto, California

Class of 1983

Adams, David H. (Duke), Greensboro, North Carolina
 Adams, Douglas H. (Washington and Lee), Asheboro, North Carolina
 Adams, Marsha (Duke), Malvern, Pennsylvania
 Adler, Stuart (Harvard), Statesville, North Carolina
 Andrews, Danny F. (Duke), Mt. Olive, North Carolina
 Anthony, Douglas C. (Washington), Hermitage, Missouri
 Auten, Grace McCall (North Carolina State), Marion, North Carolina
 Baker, Joseph W. (Duke), Frederick, Maryland
 Bass, Eric B. (Duke), Shaker Heights, Ohio
 Baum, Linda G. (Stanford), Shaker Heights, Ohio
 Beard, David C. (Davidson), York, South Carolina
 Bernard, Estrada J., Jr. (Morehouse), Monrovia, Liberia
 Blazey, Dale L. (Colgate), Pittsford, New York
 Boatman, James Edward (Southern California), Claremont, California
 Brame, Robert G., Jr. (North Carolina at Chapel Hill), Greenville, North Carolina

Brennan, Terry E. (Harvard), Munster, Indiana
 Bridges, R. McIntyre, Jr. (Texas Christian), Minden, Louisiana
 Brown, Tracey M. (Swarthmore), Summit, New Jersey
 Buhrman, William C. (Duke), Richmond, Virginia
 Buse, John B. (Dartmouth), Charleston, South Carolina
 Butler, Wendell D. (Duke), Charlotte, North Carolina
 Campos, Christian T. (Dartmouth), Worcester, Massachusetts
 Chen, Allen R. S. (Dartmouth), Lexington, Massachusetts
 Cheshire, McKinley, III (California at San Diego), West Palm Beach, Florida
 Chu, H. Willy (Duke), Raleigh, North Carolina
 Collier, Thomas F. (Cornell), Closter, New Jersey
 Cooper, Michael R. (Duke), Winston-Salem, North Carolina
 Corsa, Ann Teresa (Brown), Farmingdale, New York
 Crawford, James M. (Dartmouth), Fairfield, Connecticut
 Cummings, Robin G. (North Carolina at Chapel Hill), Pembroke, North Carolina
 Custis, Peter H. (Northwestern), Potomac, Maryland
 D'Agostino, Harry J., Jr. (Harvard), Menands, New York
 Deaton, David Wayne (Davidson), Valdese, North Carolina
 Dolmatch, Bart Lewis (Michigan), Peekskill, New York
 Drake, Almond J., III (U.S. Naval Academy), Pinetops, North Carolina
 Dresser, Michael (Duke), Davidson, North Carolina
 Eichenholz, Philip W. (Duke), St. Clair Shores, Michigan
 Farrar, Ann H. (North Carolina at Chapel Hill), Norlina, North Carolina
 Fleischer, Robert P. (Duke), Youngstown, Ohio
 Frederick, Lauretta S. (Duke), Rock Hill, South Carolina
 Freedman, Bruce M. (Duke), Alexandria, Virginia
 French, Whitney J. (Overland), Chapel Hill, North Carolina
 Fuchs, Herbert E. (California at Los Angeles) Granada Hills, California
 Fulghum, Thomas G. (Wake Forest), Sims, North Carolina
 Gallalee, John A. (Duke), Mobile, Alabama
 George, Gregory S. (Massachusetts Inst. of Tech.), Bronx, New York
 Germino, Joseph (Holy Cross), Palo Park, Illinois
 Gibson, James B. (California-Davis), San Francisco, California
 Gichner, Lisa Ann (Brown), Bethesda, Maryland
 Glatt, Herbert J. (Pennsylvania), Carmel, New York
 Glaubitz, Linda (Cornell), Floral Park, New York
 Glover, Michael Griffin (Duke), Wilson, North Carolina
 Gomez, Patrick (California at Irvine), Presidio of San Francisco, California
 Gonias, Steven L. (New York-Stony Brook), Brooklyn, New York
 Gottesman, William L. (Dartmouth), Scarsdale, New York
 Griffeth, Landis King (Duke), Greenville, South Carolina
 Haas, Mark (Duke), Floral Park, New York
 Hall, Gregory G. (Duke), Greensboro, North Carolina
 Hall, Reginald L. (St. Vincent College), Baltimore, Maryland
 Hall, Sherry Lene (Duke), Snow Hill, North Carolina
 Hambright, Wesley F. (Emory), Greensboro, North Carolina
 Hamilton, Stephen C. (Duke), Pittsburgh, Pennsylvania
 Handy, John R., Jr. (Georgia), Augusta, Georgia
 Harland, Robert C. (Whitworth), Lake Oswego, Oregon
 Hazel, William Andrew, Jr. (Princeton), Broad Run, Virginia
 Hensley, Michele I. (Duke), Raleigh, North Carolina
 Hiatt, Karl B. (Arizona State), Mesa, Arizona
 Holleman, Donald R., Jr. (Arizona), Phoenix, Arizona
 Hooper, William E. (North Carolina at Chapel Hill), Ruxton, Maryland
 Howell, David N. (Duke), Greenville, North Carolina
 Imber, Michael J. (Northwestern), Chicago, Illinois
 Johnson, Michael E. (Brigham Young), Mesa, Arizona
 Jordan, Joan T. (Duke), Raleigh, North Carolina
 Kadison, Paula (Davidson), Tallahassee, Florida
 Kaelin, William G., Jr. (Duke), Fairfield, Connecticut
 Karas, Steven P. (Columbia), Brooklyn, New York
 Katz, David L. (Duke), Chapel Hill, North Carolina
 Kay, Gary (Michigan), Northbrook, Illinois
 Kier, Ruben (Harvard), Charlotte, North Carolina
 Kitzmiller, William J. (Duke), Cincinnati, Ohio
 Knauer, Hope E. (Purdue), Cherry Hill, New Jersey
 Koehler, Mary Frances (Michigan), Northville, Michigan

Komrad, Mark S. (Yale), Coral Gables, Florida
 Kraus, Virginia Byers (Brown), Cleveland, Ohio
 Kraus, William E. (Harvard), Akron, Ohio
 Kurilla, Michael G. (California Inst. of Tech.), Trenton, New Jersey
 Kylstra, Jan A. (Dartmouth), Durham, North Carolina
 Lane, Julia C. (Duke), Pensacola, Florida
 Layton, Marcelle C. (Maryland), Baltimore, Maryland
 Lazarus, Kenneth J. (Massachusetts Inst. of Tech.), North Miami Beach, Florida
 Lease, John G. (North Carolina State), Raleigh, North Carolina
 Ling, Mark (Harvard), Meriot, Pennsylvania
 Lingle, James (North Carolina at Chapel Hill), Charlotte, North Carolina
 Lucore, Charles L. (Colgate), Cheshire, Connecticut
 Marino, Philip A. (LaSalle), New Britain, Pennsylvania
 McBride, Jack M., Jr. (Wofford), Columbia, South Carolina
 McGowan, Francis X., Jr. (Brown), New York, New York
 Mendelow, Lawrence G. (Duke), Pittsburgh, Pennsylvania
 Michel, Thomas M. (Harvard), Cranston, Rhode Island
 Miller, Deavid O. (Morehouse), Hodges, South Carolina
 Miller, Karen Hinkley (North Carolina at Chapel Hill), Raleigh, North Carolina
 Miller, Katherine E. (Duke), St. Petersburg, Florida
 Miller, Leon (Sterling), Partridge, Kansas
 Mitchell, Adele Z. (Harvard/Radcliffe), Denton, Texas
 Moreadith, Randall (North Carolina State), Leland, North Carolina
 Morrison, Mary Claire (McGill), Bound Brook, New Jersey
 Morse, Martin A. (Duke), Bethesda, Maryland
 Mumma, Michael (Duke), Orefield, Pennsylvania
 Murrah, Robert L., Jr. (Duke), Conyers, Georgia
 Neal, Jan Angela (Tennessee), Durham, North Carolina
 Ney, Kathryn A. (Pittsburgh), Pittsburgh, Pennsylvania
 Oshrain, Mindy (Brown), Rochester, New York
 Ow, Cathy L. (California at Los Angeles), Honolulu, Hawaii
 Parelman, Joseph J. (Duke), Prairie Village, Kansas
 Peterson, Caroline (Marquette), Bloomington, Minnesota
 Pisano, Etta D. (Dartmouth), Flourtown, Pennsylvania
 Piwinca-Worms, David R. (Stanford), Excelsior, Minnesota
 Porges, Reuven (Duke), Rishon Le'Zion, Israel
 Quinn, David E. (Amherst), Delmar, New York
 Rabkin, Michael G. (Massachusetts Inst. of Tech.), Marblehead, Massachusetts
 Rawlings, Charles E., III (Duke), St. Louis, Missouri
 Reiman, Threasa H. (Duke), Montgomery, Alabama
 Rein, Mitchell S. (Duke), Livingston, New Jersey
 Richardson, Margaret G. (East Tennessee State), Fayetteville, North Carolina
 Roberts, Kenneth B. (Massachusetts Inst. of Tech.) Westport, Connecticut
 Roberts, Michelle M. (Brown), Scarsdale, New York
 Robinson, David (Duke), Medford, New Jersey
 Saltz, Joel (Michigan), Detroit, Michigan
 Sane, David C. (Wake Forest), Rutherfordton, North Carolina
 Sarner, Richard A. (Duke), Merrick, New York
 Schaten, Robin L. (Cornell), Englewood, Colorado
 Sheerin, Kathleen A. (Mt. Holyoke), New Bedford, Massachusetts
 Small, James M. (Colorado), Englewood, Colorado
 Stave, Gregg Martin (Massachusetts Inst. of Tech.), Manhasset Hills, New York
 Stevens, Scott D. (Dartmouth), Lexington, Kentucky
 Stringer, Arthur V. (North Carolina State), Concord, North Carolina
 Thames, Thomas B., II (Duke), Orlando, Florida
 Treseler, Patrick A. (Seattle), Seattle, Washington
 Tweed, Jonathan N. (Florida), Ormond Beach, Florida
 Wain, Stephanie L. (Tufts), Verona, New Jersey
 Walden, Lesa Denise (Dartmouth), South Orange, New Jersey
 Walsh, James P. (Mississippi), Montgomery, Alabama
 Ware, Russell E. (Furman), Orlando, Florida
 Weisman, Joseph S. (U.S. Air Force Academy), Providence, Rhode Island
 Willett, Grace A. (Bowdoin), Raleigh, North Carolina
 Wood, Stacey A., Jr. (North Carolina at Chapel Hill), Wilson, North Carolina
 Yancey, Antronette K. (Northwestern), Kansas City, Kansas
 Zeitler, Philip Scott (Amherst), Malden, Massachusetts

Class of 1984

Adams, Renee E. (Duke), Hiddenite, North Carolina
Alitz, Curtis J. (United States Military Academy), West Point, New York
Allen, Susan A. (Duke), Durham, North Carolina
Amoroso, Kathy (Northwestern), Vienna, Virginia
Anderson, Russell D. (Williams), Barrington, Illinois
Artis, Avis A. (North Carolina Central), Faison, North Carolina
Baker, Jeffrey P. (Duke), Atlanta, Georgia
Barrett, Lynn (Duke), Birmingham, Michigan
Benyunes, Mark C. (Vanderbilt), Morehead City, North Carolina
Bonner, Jocelyn W. (Spelman), Hampton, Virginia
Brerein, William J., Jr. (Gettysburg), Whippany, New Jersey
Buncke, Geoffrey H. (California at Davis), Hillsborough, California
Carr, William C. (Davidson), Clinton, North Carolina
Chancellor, Karen (Memphis), Memphis, Tennessee
Chang, Jonathan L. (Michigan), Okemos, Michigan
Clinton, Catherine A. (Duke), Glastonbury, Connecticut
Cover, Timothy L. (Muhlenberg), Myerstown, Pennsylvania
Crutcher, Kenneth L. (Georgia), Atlanta, Georgia
Csorba, Amy R. (Case Western Reserve), Annapolis, Maryland
Dietz, John W. (United States Military Academy), Spokane, Washington
Dunnmon, Preston M. (Duke), Fayetteville, North Carolina
Early, Mary E. (Asbury), Sarasota, Florida
Ellison, David M. (Yale), Charleston, South Carolina
Erickson, Lars C. (Brown), Hillsborough, North Carolina
Feldman, David L. (Duke), Woodmere, New York
Feldman, Steven R. (Chicago), Silver Spring, Maryland
Galloway, Marc T. (North Carolina at Chapel Hill), Concord, North Carolina
Gellman, Randy L. (Northwestern), Mooresville, North Carolina
Grossman, Rachel M. (Duke), Teaneck, New Jersey
Hall, David H. (Duke), Potomac, Maryland
Hall, Samuel (Johns Hopkins), Silver Spring, Maryland
Harris, Sally S. (Dartmouth), Atherton, California
Harris, Steven G. (Duke), Daytona Beach, Florida
Hatcher, Paul A. (Cornell), Hudson, Ohio
Havlir, Diane V. (St. Olaf), Park Ridge, Illinois
Hill, Joseph A., Jr. (Wake Forest), Burlington, North Carolina
Hjelmstad, Russell (Colorado), Englewood, Colorado
Hull, Jeffrey E. (Colorado), Greenwich, Connecticut
Iruela, Maria E. (Duke), Winston-Salem, North Carolina
Jackson, Andrea M. (Tufts), Washington, District of Columbia
Jackson, Fiona S. (Rice), Houston, Texas
Jackson, J. Leigh (Denison), Weston, Massachusetts
James, Walter S., III (Duke), Atlanta, Georgia
Jester, Joy D. (North Carolina at Chapel Hill), Asheboro, North Carolina
Jettmore, Allen B. (Westminster), Parkville, Missouri
Johnston, James M. (Duke), Greensboro, North Carolina
Joslyn, Ann K. (Vassar), Roanoke, Virginia
Kiernan, David C. (Duke), Key Biscayne, Florida
Knox, James B. (Virginia), Wilmington, Delaware
Kokenes, Constantine (Duke), Charlotte, North Carolina
Kubek, Bonnie L. (Miami), Cleveland Heights, Ohio
Kupke, Kenneth G. (Stanford), Hickory, North Carolina
Laforet, Genevieve (Harvard/Radcliffe), Chestnut Hill, Massachusetts
Leiser, Jeffrey D. (Harvard), Englewood, Colorado
Litaker, David G. (Davidson), Charlotte, North Carolina
Livingston, Elizabeth G. (Harvard), Birmingham, Alabama
Lobach, David H. (Bucknell), York, Pennsylvania
Locklear, J. C. (Pembroke), Pembroke, North Carolina
McCall, William V. (Duke), Winston-Salem, North Carolina
McCann, Una D. (Princeton), Portland, Maine
McCauley, Janet L. (North Carolina at Chapel Hill), Burlington, North Carolina
McDonald, William M. (Duke), Raleigh, North Carolina
McNamara, Michael J. (Johns Hopkins), Philadelphia, Pennsylvania
McNeill, Robert E. (North Carolina State), West Jefferson, North Carolina
Madden, John F. (Amherst), New Britain, Connecticut

Mallon, William J. (Duke), Rock Falls, Illinois
 Massad, Leslie S. (Williams), Manlius, New York
 Matson, Linda K. (Williams), Schenectady, New York
 Mawhorter, Steven S. (Wheaton), Cincinnati, Ohio
 Moore, Lucy D. (Georgetown), Littleton, Colorado
 Nevett, Robert E., III (Duke), Hudson, Ohio
 Newton, Joseph R., Jr. (North Carolina at Chapel Hill), Wilson, North Carolina
 O'Donnell, Michael A. (Northwestern), Alexandria, Virginia
 Page, Richard L. (Duke), Chapel Hill, North Carolina
 Pegues, Robert F. (Cornell), Columbus, Ohio
 Penny, Wade H., III (North Carolina at Chapel Hill), Durham, North Carolina
 Porter, Kevin R. (Morehouse), Atlanta, Georgia
 Quansah, Felicity A. (Duke), Accra, Ghana
 Rajan, Narain P. (Maryland), Gaithersburg, Maryland
 Rich, John A. (Dartmouth), Bayside, New York
 Ross, Glen (Duke), Rockville Centre, New York
 Rustgi, Anil K. (Yale), Williamsville, New York
 Saltzman, Andrew (Princeton), Bloomington, Indiana
 Schanberg, Laura E. (Harvard), Durham, North Carolina
 Schmidt, David M. (Northwestern), Cascade, Wisconsin
 Schneider, Michael G. (Geneva), Edinboro, Pennsylvania
 Scroggs, Mark W. (Trinity), Durham, North Carolina
 Seabolt, Sarah J. (North Carolina at Chapel Hill), Greensboro, North Carolina
 Selin, Karen L. (Bates), Locke Mills, Maine
 Shearin, William A., Jr. (North Carolina at Chapel Hill), Cary, North Carolina
 Shore, Neal (Duke), Matawan, New Jersey
 Short, Timothy B. (Duke), Pittsburgh, Pennsylvania
 Sierra, Leslie C. (Duke), Miami, Florida
 Silberman, Michael K. (Duke), Durham, North Carolina
 Smith, Lyman S. W. (Duke), Klamath Falls, Oregon
 Spector, Rona (Cornell), New York, New York
 Sperduto, Paul W. (Duke), Westfield, New Jersey
 Stambler, Bruce (Duke), Woodmere, New York
 Stephens, Paul, Jr. (Dartmouth), East Orange, New Jersey
 Stoneburner, Sara E. (Davidson), Danville, Virginia
 Strader, David J. (Virginia), Alexandria, Virginia
 Tanaka, Taro (Williams), Minneapolis, Minnesota
 Tatum, Emily J. (Asbury), Toccoa, Georgia
 Tobin, Jayne E. (Washington University), Dyersville, Iowa
 Vandeven, Andrea M. (Yale), North Syracuse, New York
 Velaj, Richard H. (Wesleyan), Greenwich, Connecticut
 Vickrey, Barbara G. (Vanderbilt), Murfreesboro, Tennessee
 Volpp, Bryan D. (Williams), Fresno, California
 Vu, Minh T. (Columbia), Rego Park, New York
 Walker, Cheryl L. (Duke), Mebane, North Carolina
 Westry, Jeanie A. (Georgetown), Rockville, Maryland
 Whitehouse, Paula K. (North Carolina State), Raleigh, North Carolina
 Wolfe, James A. (North Carolina at Chapel Hill), Charlotte, North Carolina
 Wood, Lauren V. (Oberlin), Silver Spring, Maryland
 Wormser, Randall J. (Wooster), Shaker Heights, Ohio
 Wright, Martha S. (Mt. Holyoke), Syosset, New York

Class of 1985

Adams, Carol J. (Virginia Polytech. Inst.), Martinsville, Virginia
 Allen, Cathy M. (William and Mary), Brookline, Massachusetts
 Allf, Bryan E. (Duke), Cincinnati, Ohio
 Atwater, Susan K. (Duke), Blue Bell, Pennsylvania
 Baker, Dorothy D. (Pennsylvania), McAfee, New Jersey
 Barboriak, Peter N. (Marquette), Wood, Wisconsin
 Beck-Davis, Susan Ruth (Duke), Durham, North Carolina
 Bernstein, Roslyn J. (Johns Hopkins), New York, New York
 Bobman, Stuart A. (Duke), Lafayette Hill, Pennsylvania
 Bousvaros, Athos (Williams), Slingerlands, New York
 Bradford, Norman F. (Duke), Miami, Florida
 Brown, Richard A. (Duke), Atlanta, Georgia
 Calby, Ann M. (Duke), Midland, Michigan

Capps, John L. (Wake Forest), Warrenton, North Carolina
 Caruso, Joseph M. (Southern California), South Holland, Illinois
 Chaney, Kathy Santoriello (Virginia Polytech. Inst.), West Mifflin, Pennsylvania
 Chung, Sophia M. (Duke), Silver Spring, Maryland
 Coggin, Robin R. (Duke), Chapel Hill, North Carolina
 Coin, James T. (Oklahoma City), Fayetteville, North Carolina
 Cornwell, Sarah B. (North Carolina at Chapel Hill), Valdese, North Carolina
 Crowley, Nancy (Wisconsin), Edina, Minnesota
 Daft, Paula A. (Duke), Lafayette Hill, Pennsylvania
 Deaton, David H. (Haverford), Hickory, North Carolina
 Dickinson, Daniel J. (Virginia), Virginia Beach, Virginia
 Doman, Kathleen A. (Duke), Asheboro, North Carolina
 Dranoff, Glenn (Duke), Woodmere, New York
 Drapkin, Meredith (Duke), Riverdale, New York
 Dunkel, Ira J. (Johns Hopkins), Paramus, New Jersey
 Ebeling, James G. (Haverford), Baltimore, Maryland
 Enright, Katherine A. (Kansas), Durham, North Carolina
 Fearnow, Edgar C., III (Duke), Lancaster, Pennsylvania
 Flanagan, William F. (Davidson), Lakeland, Florida
 Freye, Christopher J. (Duke), Stonington, Connecticut
 Friedman, Daniel B. (Amherst), Albuquerque, New Mexico
 Frush, Donald P. (California at Davis), Los Gatos, California
 Gibbons, Virginia N. (Smith), Concord, Tennessee
 Gilbertson, John R., II (Massachusetts Inst. of Tech.), Lynnfield, Massachusetts
 Glover, Gregory J. (Harvard), Blythewood, South Carolina
 Gotlib, Louis J. (Johns Hopkins), Bangor, Maine
 Gray, John L. (Westminster), Lewisburg, Pennsylvania
 Greenfield, Ruth A. (Duke), Durham, North Carolina
 Gulevich, Steven J. (Stanford), Stanford, California
 Harbury, Olin L. (Massachusetts Inst. of Tech.), Etna, New Hampshire
 Holcomb, Gerianne C. G. (Kent State), Cary, North Carolina
 Jackson, Mark D. (Wisconsin), Middleton, Wisconsin
 Jenkins, Susan E. (Pennsylvania), Philadelphia, Pennsylvania
 Jones, Elizabeth C. (Georgetown), Bethesda, Maryland
 Jones, Vincent T. (United States Air Force Academy), Arapahoe, North Carolina
 Kabas, John S. (North Carolina at Chapel Hill), Raleigh, North Carolina
 Keppel, Kenneth P. (North Carolina at Chapel Hill), Hickory, North Carolina
 King, Peter H. (Duke), Canton, Ohio
 Kipnis, Robert J. (Brown), Clayton, Missouri
 Kirkland, Kathryn B. (Mount Holyoke), Charleston, South Carolina
 Kleiner, Jillian (Amherst), Larchmont, New York
 Kliewer, Mark A. (Oberlin), Mt. Pleasant, South Carolina
 Leonardy, Nicholas J. (Duke), Atlanta, Georgia
 Levine, Pamela D. (Emory), Atlanta, Georgia
 Lewis, William R., III (California at Davis), Carmel, California
 Loudon, Mark S. (Duke), Parkersburg, West Virginia
 Maroon, Thomas J., Jr. (Duke), Wheeling, West Virginia
 Mayer, Victoria (Cornell), Miami, Florida
 McFarland, Elizabeth J. (Northwestern), Wauwatosa, Wisconsin
 Menick, Barry J. (Duke), Rockville, Maryland
 Mitchell, R. Brian (Duke), Columbus, Ohio
 Murray, Michael J. (Vanderbilt), Durham, North Carolina
 Mustoe, Thomas A. (Harvard), Covington, Virginia
 Myers, Margaret A. (Duke), Allison Park, Pennsylvania
 Newby, Stephanie F. (North Carolina State), Greensboro, North Carolina
 Nichols, Joni C. (Dartmouth), Oak Brook, Illinois
 Nichols, Stephen R. (Massachusetts Inst. of Tech.), Magnolia, Texas
 Papanicolaou, Michael N. (Duke), Lighthouse Point, Florida
 Paulson, Erik K. (Colorado), Columbus, Ohio
 Perkins, Christopher M. (Lafayette), Darien, Connecticut
 Petruska, David B. (Georgetown), Wilmington, Delaware
 Pharr, Walter D. (Davidson), Greensboro, North Carolina
 Pierce, Lori J. (Pennsylvania), Philadelphia, Pennsylvania
 Pike, Marilyn C. (Duke), Durham, North Carolina
 Pomper, Mark E. (Dartmouth), Wilmette, Illinois
 Porter, Kathleen L. (Wesleyan), Weston, Massachusetts
 Rabassa, Antonio E. (Georgetown), Key Biscayne, Florida

Rajagopalan, Shrinivas (Harvard), Durham, North Carolina
 Reid, Steven H. (North Carolina at Chapel Hill), Salisbury, North Carolina
 Reiser, Harvey J. (Michigan), Minnetonka, Minnesota
 Rossitch, Eugene, Jr. (North Carolina at Chapel Hill), Winston-Salem, North Carolina
 Sherrier, Robert H. (Princeton), Brielle, New Jersey
 Shortridge, Beth Ann (Princeton), Atlanta, Georgia
 Silverstein, Jonathan S. (Duke), Port Washington, New York
 Slater, Douglas K. (William and Mary), Cape Coral, Florida
 Smalley, Walter E., Jr. (Emory and Henry), Kingsport, Tennessee
 Smith, Stephen R. (Dartmouth), Parkersburg, West Virginia
 Sobol, Warren M. (North Carolina at Chapel Hill), Wilmington, North Carolina
 Spain, Claire L. (Washington), Chicago, Illinois
 St. Peter, Robert F. (Kansas), Wichita, Kansas
 Suh, Eall Joo (Smith), Morganton, North Carolina
 Takla, Medhat W. (North Carolina at Chapel Hill), Raleigh, North Carolina
 Taylor, Dean C. (United States Military Academy), Livonia, Michigan
 Thompson, John P. (Duke), St. Petersburg, Florida
 Trellis, Dan R. (Brown), Pittsburgh, Pennsylvania
 Treseler, Catherine P. B. (Seattle), Durham, North Carolina
 Tripathy, Debasish (Massachusetts Inst. of Tech.), New Orleans, Louisiana
 Tripp, Henry, Jr. (North Carolina at Chapel Hill), Greensboro, North Carolina
 Trippett, Tanya M. (Spelman), Mountain Home, Idaho
 Tsai, Joseph C. (Harvard), Rocky River, Ohio
 Umhau, Andrew N. (Davidson), Chevy Chase, Maryland
 Vance, Jeffrey M. (Puget Sound), Chapel Hill, North Carolina
 Veronee, Charles D. (Charleston), Summerville, South Carolina
 Wang, Henry Z. (Northwestern), Pittsburgh, Pennsylvania
 Warner, Charles H. (Washington and Lee), Charlotte, North Carolina
 Weston, Brent W. (Duke), Durham, North Carolina
 Wiley, James F., II (Duke), Raleigh, North Carolina
 Willett, Ralph P. (Williams), Raleigh, North Carolina
 Windom, Hugh H. (Duke), Sarasota, Florida
 Wright, Bryan T. (North Carolina at Chapel Hill), Raleigh, North Carolina
 Wyatt, Richard M. (Washington), Calhan, Colorado

Class of 1981 with Internship Appointments

Albrecht, Renata (Rockville, Maryland) Duke University Medical Center, Durham, North Carolina—
 Pathology
 Allen, David B. (La Grange, Illinois) University of Wisconsin, Madison, Wisconsin—Pediatrics
 Anderson, Roger F., Jr. (Durham, North Carolina) Duke University Medical Center, Durham, North
 Carolina—Internal Medicine
 Angle, Marcia Ann (Omaha, Nebraska) Duke University Medical Center, Durham, North Carolina—
 Family Practice
 Arens, Gwendolyn M. (Washington, D.C.) Highland Hospital, Rochester, New York—Family
 Practice
 Ashland, Gloria Elizabeth (Thornton, Colorado) North Carolina Memorial, Chapel Hill, North
 Carolina—Internal Medicine
 Baker, Ralph Parr, Jr. (Newberry, South Carolina) Duke University Medical Center, Durham, North
 Carolina—Anesthesiology
 Barnes, R. Stephen (Pratville, Alabama) Duke University Medical Center, Durham, North Carolina—
 Psychiatry
 Birmingham, Lorainne Faith (Durham, North Carolina) University of Maryland, Baltimore,
 Maryland—Pediatrics
 Blakey, David (Greensboro, North Carolina) Naval Aerospace and Regional Medical Center,
 Pensacola Florida—Family Practice
 Bloch, Craig (Allentown, Pennsylvania) Columbia-Presbyterian Medical Center, New York, New
 York—Pediatrics
 Boekelheide, Kim (Durham, North Carolina) Duke University Medical Center, Durham, North
 Carolina—Pathology
 Bowe, Pamela Lee (Cincinnati, Ohio) Duke University Medical Center, Durham, North Carolina—
 Internal Medicine
 Brasher, Bruce (Forked River, New Jersey) University of Alabama, Birmingham, Alabama—Internal
 Medicine
 Brazeal, Febe Iris (Fairhope, Alabama) North Carolina Memorial Hospital, Chapel Hill, North
 Carolina—Flexible
 Bressler, Peter Bartlett (Durham, North Carolina) University of Florida, Gainesville, Florida—
 Internal Medicine

Bronec, Peter R. (Racine, Wisconsin) Duke University Medical Center, Durham, North Carolina—Neurological Surgery

Browning, David Judson (Huntsville, Alabama) Duke University Medical Center, Durham, North Carolina—Internal Medicine

Buescher, Phil (Fort Washington, Pennsylvania) Johns Hopkins, Baltimore, Maryland—Internal Medicine

Calvert, Richard J. (Worthington, Ohio) Georgetown University, Washington, D.C.—Internal Medicine

Campbell, Robert Frederick (Oak Ridge, Tennessee) Medical College of Georgia, Augusta, Georgia—Family Practice

Christenbury, Jonathan David (Charlotte, North Carolina) Baylor College AFL, Houston, Texas—Internal Medicine

Clapp, Debra Hart (Bluefield, West Virginia) Ohio State University, Columbus, Ohio—Obstetrics and Gynecology

Clark, Timothy Joseph (Kyoto, Japan) Duke University Medical Center, Durham, North Carolina—Pathology

Davidson, Diane M. (Monroe, New York) Children's Hospital, Philadelphia, Pennsylvania—Pediatrics

Davis, Clinton B., II (Durham, North Carolina) Duke University Medical Center, Durham, North Carolina—Orthopedic Surgery

Davis, Jefferson Underwood (Winston-Salem, North Carolina) University of Pittsburgh, Pittsburgh, Pennsylvania—Plastic Surgery

Davis, John S. (Akron, Ohio) Baylor College AFL, Houston, Texas—Internal Medicine

Dein, John Richard (San Antonio, Texas) Vanderbilt University Affiliated Hospitals, Nashville, Tennessee—Surgery

DeLuca, Peter A. (Jersey City, New Jersey) Yale-New Haven Medical Center, New Haven, Connecticut—Pediatrics

Dunlap, Nancy Elizabeth (Gainesville, Georgia) University of Alabama in Birmingham, Birmingham, Alabama—Internal Medicine

Dunn, Laurie Louise (Laurinburg, North Carolina) Case Western Reserve University, Cleveland, Ohio—Pediatrics

Ebihara, Lisa (Chicago, Illinois) Rush Presbyterian Hospital, Chicago, Illinois—Physiology

Ferguson, Berrylin J. (Jacksonville, Florida) Duke University Medical Center, Durham, North Carolina—Surgery

Floyd, W. Lawrence, Jr. (Durham, North Carolina) Riverside Hospital, Newport News, Virginia—Family Practice

Fudman, Edward Joel (Baltimore, Maryland) Duke University Medical Center, Durham North Carolina—Internal Medicine

Gillman, Matthew William (Chevy Chase, Maryland) University of North Carolina at Chapel Hill, Chapel Hill, North Carolina—Flexible

Gospe, Sidney Maloch, Jr. (San Francisco, California) Baylor College of Medicine, Houston, Texas—Pediatrics

Grace, Candis Denise (Charleston, South Carolina) Duke University Medical Center, Durham, North Carolina—Psychiatry

Hainline, Bryan Edward (Atlanta, Georgia) Duke University Medical Center, Durham, North Carolina—Biochemistry

Harlan, David M. (Sylvania, Ohio) Duke University Medical Center, Durham, North Carolina—Internal Medicine

Honeycutt, Pamela J. (Jackson, Tennessee) Children's Hospital of San Francisco, San Francisco, California—Pediatrics

Hudson, Gregory Lee (Wellesley, Massachusetts) Pitt Memorial Hospital, Greenville, North Carolina—Internal Medicine

Hughes, Claude L., Jr. (New Bern, North Carolina) Duke University Medical Center, Durham, North Carolina—Obstetrics and Gynecology

Jorgensen, Ellen Verena (Garden City, New York) Duke University Medical Center, Durham, North Carolina—Pediatrics

Kappa, Jeffrey Ray (Kingsport, Tennessee) University of Pennsylvania, Philadelphia, Pennsylvania—Surgery

Keener, Stephen R. (Swannanoa, North Carolina) Medical Center Hospital, Charleston, South Carolina—Family Practice

Koo, Edward H. M. (Hong Kong) North Carolina Memorial Hospital, Chapel Hill, North Carolina—Internal Medicine

Kriet, John W., Jr. (Hebron, Maryland) University of Michigan, Ann Arbor, Michigan—Internal Medicine

Kunin, Jean (Madison, Wisconsin) University of Colorado Affiliated Hospitals, Denver, Colorado—Psychiatry

Lang, Joanne (New Berlin, Wisconsin) University of Wisconsin, Milwaukee, Wisconsin

Lansing, Ann Meredith (Louisville, Kentucky) Duke University Medical Center, Durham, North Carolina—Internal Medicine

Lee, Jesse Thomas, III (Wilmington, North Carolina) Duke University Medical Center, Durham, North Carolina—Pathology

Leone, Joann (Pelham, New York) Yale-New Haven Medical Center, New Haven, Connecticut—Psychiatry

Li, James T. C. (New York, New York) Duke University Medical Center, Durham, North Carolina—Internal Medicine

Lorensen, Gilda Jane (Orinda, California) University of Oregon, Portland, Oregon—Obstetrics and Gynecology

Lottich, Susan Chace (Durham, North Carolina) Duke University Medical Center, Durham, North Carolina—Surgery

Lourie, Gerald Louis (Syracuse, New York) Duke University Medical Center, Durham, North Carolina—Radiology

Lucas, John Fair, III (Durham, North Carolina) Duke University Medical Center, Durham, North Carolina—Surgery

Mabry, Mack H. (Norwood, North Carolina) Duke University Medical Center, Durham, North Carolina—Hematology

McKnight, Martha Anne (Charlotte, North Carolina) Duke University Medical Center, Durham, North Carolina—Surgery

Menico, Gregory A. (Naugatuck, Connecticut) Hospitals University Health Center, Pittsburgh, Pennsylvania—Surgery

Middleton, William Dana (Muncie, Indiana) Mallinckrodt Institute of Radiology, St. Louis, Missouri—Radiology

Milbauer, David Leland (Massapequa, New York) Lenox Hill Hospital, Manhattan, New York—Radiology

Miller, Edward D. (Columbus, Ohio) University of Pittsburgh, Pittsburgh, Pennsylvania—Obstetrics and Gynecology

Milliken, Nancy (Spartanburg, South Carolina) Pennsylvania Hospital, Philadelphia, Pennsylvania—Obstetrics and Gynecology

Mitchener, James Samuel, III (Laurinburg, North Carolina) University of Virginia, Charlottesville, Virginia—Surgery

Montgomery, Demetria (Atalla, Alabama) Jewish Hospital, St. Louis, Missouri—Internal Medicine

Morris, Hugh Bailey (Aiken, South Carolina) University of Texas at Southwestern, Dallas, Texas—Surgery

Morris, James John (Durham, North Carolina) Duke University Medical Center, Durham, North Carolina—Surgery

Morrison, John G. (Due West, South Carolina) Vanderbilt University Hospitals, Nashville, Tennessee—Surgery

Murdaugh, Elizabeth W. (Columbia, South Carolina) Rainbow Babies Hospital, Cleveland, Ohio—Pediatrics

O'Neill, James Flemister, Jr. (St. Petersburg, Florida) Duke University Medical Center, Durham, North Carolina—Anesthesiology

Olson, Richard A. (Canby, Minnesota) Grady Memorial Hospital, Atlanta, Georgia—Surgery

Parkerson, George Robert, III (Winder, Georgia) Duke University Medical Center, Durham, North Carolina—Family Practice

Peters, Bryan Maclin (Elizabeth City, North Carolina) Duke University Medical Center, Durham, North Carolina—Radiology

Piscitelli, Joanne Terese (Arcadia, California) Duke University Medical Center, Durham, North Carolina—Obstetrics and Gynecology

Plotka, Marshall B. (Mountain Brook, Alabama) University of Utah Affiliated Hospitals, Salt Lake City, Utah—Family Practice

Porter, Jan L. (Memphis, Tennessee) Medical Center Hospitals of South Carolina, Charleston, South Carolina—Family Practice

Poyet, Claire M. (Coral Gables, Florida) Duke University Medical Center, Durham, North Carolina—Internal Medicine

Pryor, William Watkins, Jr. (Greenville, South Carolina) Medical University of South Carolina, Charleston, South Carolina—Internal Medicine

Putnam, William S. (Roanoke, Virginia) Duke University Medical Center, Durham, North Carolina—Internal Medicine

Ramage, James E., Jr. (Columbia, South Carolina) Grady Memorial, Atlanta, Georgia—Internal Medicine

Rankin, R. Brandon, III (Concord, North Carolina) Vanderbilt University, Nashville, Tennessee—Radiology

Reiman, Eric Michael (Long Island, New York) Duke University Medical Center, Durham, North Carolina—Psychiatry

Riley, Hosie Kenneth (Oakland, California) Duke University Medical Center, Durham, North Carolina—Radiology

Russell, Asela Catherine (Washington, D.C.) University of California Medical Center, Moffit Hospital, San Francisco, California—Obstetrics and Gynecology

Sahmel, Reinhardt Otto (Staten Island, New York) Massachusetts General Hospital, Boston, Massachusetts—Pathology

Schiff, Steven John (Liberty, New York) Duke University Medical Center, Durham, North Carolina—Neurosurgery

Schmidt, Emmett Vance (Tarrytown, New York) Boston Children's Hospital, Boston, Massachusetts—Pediatrics

Schwartz, Steve Wendelin (Phoenix, Arizona) Medical Center Hospital, Charleston, South Carolina—Family Practice

Segars, James Hugh, Jr. (Knoxville, Tennessee) University of Virginia, Charlottesville, Virginia—Surgery

Severance, Harry Wells, Jr. (Wilson, North Carolina) Medical University of South Carolina, Charleston, South Carolina—Surgery

Sewell, Kathryn Lea (Middleburgh, New York) Duke University Medical Center, Durham, North Carolina—Internal Medicine

Sholar, Pam Westmoreland (Mooresville, North Carolina) The Johns Hopkins Medical Institutions, Baltimore, Maryland—Internal Medicine

Shugerman, Earle, Jr. (Birmingham, Alabama) University of Colorado Affiliated Hospitals, Denver, Colorado—Psychiatry

Siedler, Daniel E. (West Falls, New York) University of California, San Francisco, California—Radiology

Simel, David Lee (Greensboro, North Carolina) Duke University Medical Center, Durham, North Carolina—Internal Medicine

Snyder, Quay C., Jr. (Mechanicsburg, Pennsylvania) Malcolm Grow Medical Center, Andrews Air Force Base, Maryland—Family Practice

Sourbeer, Jeffrey John (Largo, Florida) Medical Center Hospitals, Charleston, South Carolina—Family Practice

Spector, Barbara (New York, New York) Duke University Medical Center, Durham, North Carolina—Radiology

Spence, Frank J., Jr. (Orlando, Florida) Duke University Medical Center, Durham, North Carolina—Family Practice

Stanley, Thomas Eugene, III (Savannah, Georgia) University of Minnesota Hospital, Minneapolis, Minnesota—Surgery

Stein, Roy M. (Montgomery, Alabama) Dartmouth-Hitchcock Medical Center, Hanover, New Hampshire—Internal Medicine

Stephens, Wayland Chad (Lubbock, Texas) North Carolina Baptist, Winston-Salem, North Carolina—Family Practice

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Thielman, Samuel Barnett (Montreat, North Carolina) Duke University Medical Center, Durham, North Carolina—Psychiatry

Thienemann, Margo (Rockford, Illinois) University of San Antonio Teaching Hospital, San Antonio, Texas—Internal Medicine

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Tyor, William Randolph (Durham, North Carolina) Grady Memorial Hospital, Atlanta, Georgia—Internal Medicine

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Vereen, Ronald Lloyd (Durham, North Carolina) Duke Umstead Combined Program, Durham, North Carolina—Psychiatry

Watkis, Patricia Ann (Brooklyn, New York) Presbyterian St. Lukes, Chicago, Illinois—Obstetrics and Gynecology

Wheeler, David M. (Towson, Maryland) University of Alabama in Birmingham, Birmingham, Alabama—Anesthesiology

Whitehurst, Robert M. (New Bern, North Carolina) Ohio State University, Columbus, Ohio—Pathology

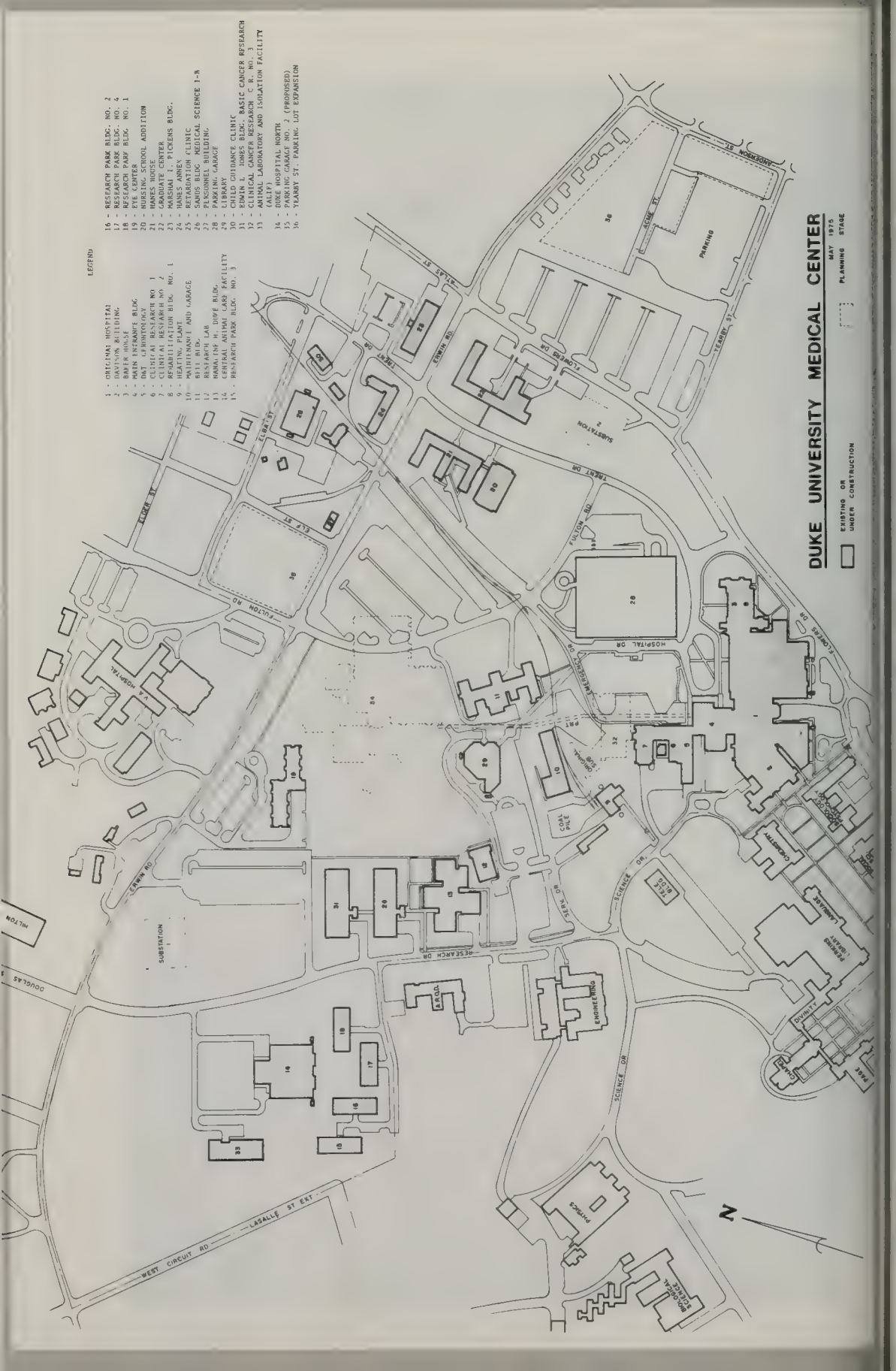
Wilcosky, Bernard R., Jr. (Uniontown, Pennsylvania) Letterman Army Medical Center, San Francisco, California—Anesthesiology

Wooten, S. Lamont (Greenville, North Carolina) University of Virginia, Charlottesville, Virginia—Surgery



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- 2 - OUTPATIENT BUILDING
- 3 - NURSE HOUSE
- 4 - MAIN ENTRANCE BLDG
- 5 - OUTPATIENT CLINIC
- 6 - CLINICAL RESEARCH NO. 1
- 7 - CLINICAL RESEARCH NO. 2
- 8 - REHABILITATION BLDG. NO. 1
- 9 - HEATING PLANT
- 10 - RESEARCH BLDG. NO. 1
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DUKE UNIVERSITY MEDICAL CENTER

MAY 1975

PLANNING STAGE

EXISTING OR
UNDER CONSTRUCTION

bulletin of
Duke University 1982-83

Allied Health Programs



bulletin of
Duke University 1982-83

Allied Health Programs

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Typesetting by Electronic Composition Div., Computer Data Systems, Inc., Washington, D.C.
Printed by William Byrd Press, Richmond, Virginia

The information in the bulletin applies to the academic year 1982-83 and is accurate and current, to the best of our knowledge, as of April 1982. The University reserves the right to change programs of study, academic requirements, lecturers, teaching staffs, the announced University calendar, and other matters described in the bulletin without prior notice, in accordance with established procedures.

Duke University does not discriminate on the basis of race, color, national and ethnic origin, sex, handicap, or age in the administration of educational policies, admission policies, financial aid, employment, or any other University program or activity. It admits qualified students to all the rights, privileges, programs, and activities generally accorded or made available to students. For further information, call Dolores L. Burke, Equal Opportunity Officer, telephone 919-684-6578.

Volume 54

June 1982

Number 6

The Bulletin of Duke University (USPS 073-680) is published by Duke University, Duke Station, Durham, North Carolina 27706 as follows: monthly—April, May, and July; semimonthly—October, March, and August; thrice-monthly—June. Second-class postage paid at Durham, North Carolina.

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University Administration

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Office of Medical and Allied Health Education

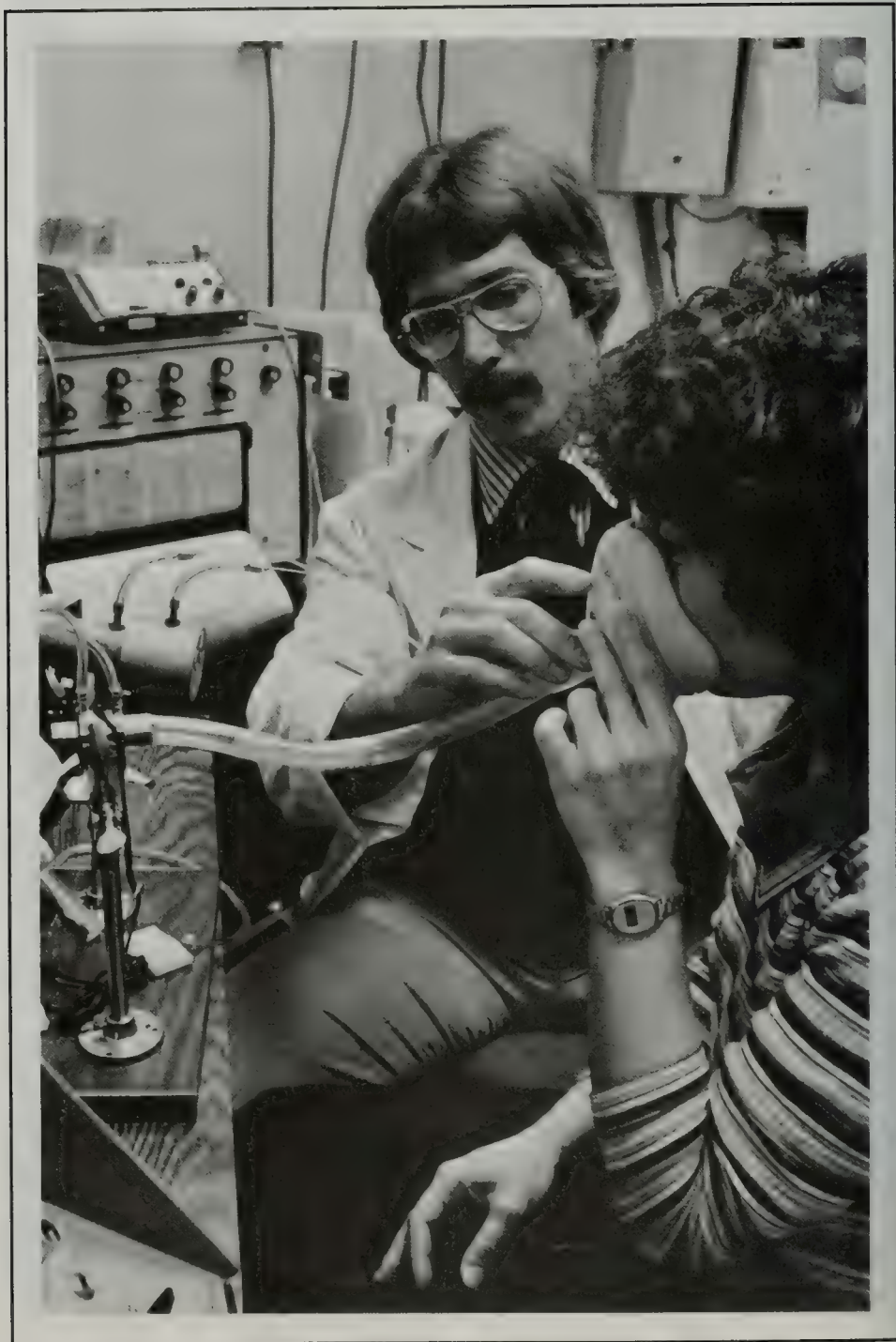
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General Information



History

In 1924, James Buchanan Duke established the Duke Endowment, and thus made possible the creation of Duke University.

I have selected Duke University as one of the principal objects of this trust because I recognize that education, when conducted along sane and practical, as opposed to dogmatic and theoretical, lines is, next to religion, the greatest civilizing influence. I have selected hospitals as another of the principal objects of this trust because I recognize that they have become indispensable institutions, not only by way of ministering to the comfort of the sick, but in increasing the efficiency of mankind and prolonging human life I very much hope that the people will see to it that adequate and convenient hospitals are assured in their respective communities It is to these rural districts that we are to look in large measure for the bone and sinew of our country.

The School of Medicine and Duke Hospital, then a 400-bed facility, were opened in 1930 under the leadership of the first Dean, Dr. Wilburt C. Davison. Today the hospital, with over 1,000 beds, is one of the largest private hospitals in the South. Duke University Medical Center has become a leader in contemporary medicine; by its continued dedication to educational programs, it has been closely involved in the development of the allied health field.

Programs in hospital administration and dietetics were initiated at the Medical Center in 1930. Programs in several disciplines dealing primarily with the laboratory aspects of clinical medicine began soon afterward. Due to marked advances in the field of medicine, new allied health programs were developed in the early 1960s to assist in the many medical specialties. Today there are over 400 students enrolled in Duke University allied health programs.

The Division of Allied Health Education of the School of Medicine officially represents the interests of these health-related educational programs by being the liaison with the entire medical complex. It coordinates all student and faculty activities and provides for such varied educational services as the planning and evaluation of courses and circulation of instructional materials.

Resources for Study

Libraries. The Perkins Library, among the finest university libraries in the country, contains over 3,000,000 volumes and over 5,000,000 manuscripts. Over 50,000 volumes are added annually. Separate departmental and professional school libraries provide notable collections in several disciplines.

The Medical Center Library/Communications Center is located in the Seeley G. Mudd Building, midway between the north and south Medical Center campuses. The Seeley G. Mudd Building also contains the Medical Center Bookstore and the Searle Center for Continuing Education.

The Medical Center Library attempts to provide all informational services and collections necessary to further educational, research, and clinical activities in the medical field. The collection of approximately 183,000 volumes and 2,458 current journal subscriptions is freely available for use by Medical Center students and personnel; study accommodations for 500 readers include extensive provisions for audiovisual learning. The library also includes the Trent Collection which is unsurpassed in the Southeast as a resource for study of the history of medicine. A branch collection of books and journals is maintained in the Nanaline B. Duke Medical Sciences Building.

The Medical Center Library is open: Monday through Friday, 8:30 A.M. to midnight; Saturday, 8:30 A.M. to 6:00 P.M.; Sunday, 12:00 noon to midnight. Summer and holiday hours are as announced.

Director: Warren P. Bird, M.S. (Columbia, 1964), *Associate Professor of Medical Literature*; Curator of the Trent Collection: G.S.T. Cavanagh, B.S., B.L.S. (McGill, 1951), *Professor of Medical Literature*.

The library in the Durham Veterans Administration Medical Center contains over 3,000 books and receives 255 journals. It also supplies a reference and bibliographic service to both staff and residents. In addition, literature searches are made upon request.

The Medical Center Bookstore. This bookstore offers a wide selection of biomedical textbooks and reference books, as well as an assortment of laboratory and clinical instruments, lab coats, scrub dresses, and office supplies. Facilities for browsing in a pleasant atmosphere are available, as are special individualized services, such as bookbinding. The bookstore is open: 8:30 A.M. to 5:00 P.M., Monday through Friday. Manager: Kenneth Baxley

The Searle Center for Continuing Education in the Health Sciences. This center provides accommodations for conferences, symposia, lectures, and meetings to support the continuing education activities of the Medical Center. Provisions have been made for banquet and food service arrangements to complement the meeting facilities.

The Media Learning Laboratory. Located in the Veterans Administration Medical Center, this facility has eight study carrels equipped to handle audiovisual materials, including slides, videotapes, and 8mm. loop films. Through this laboratory individuals may also obtain audiovisual materials from both the Duke University and Veterans Administration Medical Centers.

Audiovisual Educational Facilities. Duke University Medical Center Division of Audiovisual Education and the Veterans Administration Medical Center Medical Media Production Service have production facilities in medical art, photography, and television. These serve the allied health programs by providing all types of audiovisual materials for teaching, research, and patient care. Instruction in the production and use of audiovisual materials is a part of the course of instruction in several allied health programs.

Computing Facilities. The Duke University Computation Center provides faculty and students with a facility for research and instruction in computing. It is presently equipped with an IBM 370 Model 158 which is connected by microwave to an IBM 3081 located at the Triangle Universities Computation Center (TUCC) in the Research Triangle Park. In addition to the University computation center there are four medium-speed terminals, several low-speed keyboard terminals, and forty-two IBM 5100 stand alone mini-computers available on the campus. The mini-computers are in clusters of seven and are in six locations on the campus.

Hospitals. Duke University Hospital, a 1,008-bed facility, has a dual purpose of providing both patient care and professional education. Comprehensive diag-

nostic and treatment facilities are provided at various levels of patient care ranging from intensive to minimal care units. Private, semiprivate, and ward accommodations are utilized by the more than 30,000 patients admitted each year. Special diagnostic and treatment units such as the cardiac catheterization laboratory, hemodialysis laboratory, and the hyperbaric oxygenation chamber are also housed in the hospital. Outpatient services include the public clinics, private clinics, and the emergency service. Duke Hospital is fully accredited by the Joint Committee on Accreditation of Hospitals and is approved for internship and residency training by the Council on Medical Education of the American Medical Association.

The Durham Veterans Administration Medical Center is located within walking distance of the Duke University Medical Center. All full-time professional staff members of the hospital are also members of the faculty of the Duke University School of Medicine. The Veterans Administration Medical Center, a 475-bed facility, provides the Duke University Medical Center with an excellent opportunity for closely integrated student teaching and house staff training.

Other patient care facilities directly affiliated with the Medical Center include the Lenox Baker Children's Hospital of North Carolina, a 40-bed residential rehabilitation center for children; and Sea Level Hospital, a 72-bed general hospital.

Several of the allied health programs have affiliations with other hospitals and medical institutions for clinical instruction.

Student Life

Living Accommodations. Because of the shortage of residential space, students enrolled in allied health certificate programs are not eligible for student housing. Student housing includes dormitories and apartments. To full-time students in degree (not certificate) programs, a limited number of apartments are available in the Central Campus apartment complex. No dormitory housing is available to any allied health students. Suitable living arrangements are extremely limited in nearby areas. Students planning to live off campus should make arrangements in advance of matriculation date in order to be assured accommodations. Information concerning housing is provided on request by the Central Campus Office, Department of Housing Management, 217 Anderson Street, Durham, North Carolina 27705.

Dining Facilities. Several dining facilities located in and near the Medical Center are available to students. In the Duke University Union Building, there are two cafeterias and a dining room. There are also cafeterias in the Graduate Center and the Veterans Administration and Duke hospitals.

Student Aid. Duke University recognizes the responsibility of students and their families to provide funds according to their ability to achieve the educational objective. Students are encouraged to pursue every available source of support through their local and state student assistance programs.

All programs are approved for veterans education benefits (G.I. bill) for those who are eligible. Some of the programs have limited student support available through stipends or special scholarships.

Financial aid is available through Duke in limited amounts in the form of loans. Duke University is a lender under the Federally Insured Guaranteed Student Loan Program. A Graduate and Professional Schools Financial Aid Service (GAP-SFAS) form from applicants and their parents (and spouse, if applicable) is required in addition to the Duke University Financial Aid Application. A copy of the student's (and spouse's, if applicable) federal income tax return for the previous taxable year is required. In the case of the dependent student, a copy of

the parent's federal income tax return for the last taxable year is also required. Duke University reserves the right to decline to approve loan applications for those applicants who do not have a satisfactory credit history. U.S. citizenship or permanent residence visa is required of all students receiving loans through the school.

It is the responsibility of recipients of financial aid to keep the Medical Center Office of Financial Aid informed of any outside financial assistance they may receive. It must be understood that Duke reserves the right to reconsider its offer of financial assistance in the event of a major outside award to a recipient. No financial aid funds may be used during a period when the recipient is not involved with work toward the degree or certificate. Part-time or special students are not eligible for financial aid.

Students who have been accepted for matriculation routinely receive financial aid applications. Annual reapplication is required of all financial aid recipients.

Pell Grant (formerly BEOG) is a federally funded grant for students with financial need who have not earned a baccalaureate degree and are enrolled in any postsecondary educational program. A special application is required and may be obtained from a high school guidance counselor or any financial aid office.

North Carolina Student Incentive Grant (NCSIG) is available to residents of North Carolina who are enrolled in any postsecondary educational program in North Carolina. The applicant must demonstrate substantial financial need and must not have earned a baccalaureate degree. Application deadline is 15 March for the following academic year. Application forms may be obtained from College Foundation, Inc., 1307 Glenwood Avenue, Raleigh, North Carolina 27605.

North Carolina Legislative Tuition Grant is a direct grant of \$600 from the state to each North Carolinian enrolled in a private educational institution in North Carolina who is studying toward the first baccalaureate degree. No application is required.

North Carolina Educational Loan Program. The North Carolina Department of Human Resources administers the Educational Loan Program for domiciliaries of North Carolina pursuing training in certain health professions who agree to practice their specialties as qualified professionals in underserved areas or programs of the state. Some of the fields of study supported are anesthesia, medical technology, physical therapy, and physician assistant. Factors considered in awarding loans: ability to complete a training program; motivation to fulfill program goals; financial resources available to the applicant from other sources; and ability to meet domiciliary requirements. Loan amounts vary depending on the program of enrollment; they are renewable depending on length of curriculum; and recipients agree to cancel their obligations by practice in shortage areas or programs of North Carolina. For further information, contact the Educational Loan Program, P.O. Box 12200, Raleigh, North Carolina 27605.

Every effort will be made to assist the student with tuition and living expenses within the framework of school policies which may be in effect at the time. However, as funds are limited, prior indebtedness will not be given favorable consideration as part of the student's budget. A financial aid brochure and student budget for each allied health program are available, upon request, in the spring of each year. Any applicant having further questions may write to the Coordinator, Financial Aid, 126 Davison Building, Box 3005, Duke University Medical Center, Durham, North Carolina 27710.

Student Health Service. The facilities of the Student Health Service Clinic located in the Pickens Building are available year-round to all allied health students. The clinic provides outpatient treatment, routine laboratory and x-ray examinations necessary for the diagnosis of acute medical and surgical problems, and many other services. A separate fee for this service is assessed for each student. Participation is mandatory for all Duke students unless a waiver is granted by the

appropriate Dean. The coverage described above does not extend to spouses and children. However, dependents are eligible to use the facilities of the Duke University Medical Center, as are all members of the community, but they are responsible for health costs incurred. The Student Health Service Clinic is open from 8:00 A.M. to 7:00 P.M., Monday through Friday; 9:00 A.M. to 2:00 P.M., Saturday; 2 P.M. to 5 P.M. on Sundays. The Sunday clinic is designed for the evaluation of illnesses or injuries which cannot wait until regular weekday Student Health Service hours. This clinic is open only during the spring and fall semesters of the regular academic year. It is closed during summer sessions. The facilities of the University Infirmary on East Campus are available to allied health students from the opening of the University in fall until graduation day in spring.

Student Health Insurance. In order to provide twenty-four-hour protection to students for accidents and sicknesses not covered by the Student Health Services, the Student Accident and Sickness Insurance policy is available. Benefits include payment of hospitalization and surgical and medical fees. Persons are covered on and off campus, at home, while traveling between home and school, and during interim vacation periods. The premiums for a student (and spouse or family) for the year 1982-83 will be more fully described in the insurance brochure sent from the Bursar's office. If at the time of matriculation, students do not have a sickness and accident policy, it is mandatory that they purchase this insurance.

Counseling and Psychological Services. CAPS provides a comprehensive range of counseling and psychological services to assist and promote the personal growth and development of Duke students. The professional staff is composed of clinical social workers, psychologists, and psychiatrists. A number of short-term seminars or groups focusing on skills development and special interests such as coping with stress and tension, fostering assertiveness, enriching couples communication, and dealing with separation and divorce are also offered. A policy of strict confidentiality is maintained. Individual evaluation and brief counseling/therapy as well as career and skills development seminars are covered by student health fees. Appointments may be made by calling 684-5100 or visiting CAPS, 214 Old Chemistry Building.

Athletic Events. All students paying the full Duke University undergraduate tuition are issued Duke University identification cards and may attend all home intercollegiate athletic contests on a first-come, first-served basis. Graduate students and those enrolled in the certificate program may purchase a book of tickets for regular season home football and basketball games. All tickets are sold on a first-come, first-served basis. The ticket office is located in Cameron Indoor Stadium.

Judicial System and Regulations. Duke University expects and requires of all its students full cooperation in developing and maintaining high standards of scholarship and conduct. Each student is subject to the rules and regulations of the University which are currently in effect or which are, from time to time, put into effect by the appropriate authorities of the University. At the same time, the individual is responsible for decisions and choices within the framework of the regulations of the community as Duke does not assume in *loco parentis* relationships.

Any student, in accepting admission, indicates a willingness to subscribe to and be governed by these rules and regulations and acknowledges the right of the University to take such disciplinary action, including suspension or expulsion, for failure to abide by these regulations or for other conduct adjudged unsatisfactory or detrimental to the University. A copy of the Allied Health Judicial System including a code of ethics, rules of conduct, and judicial procedures will be provided each student.

Academic Procedures and Information



Admissions

Admissions to all Duke University educational programs are reviewed by an appropriate admissions committee. Students matriculating in the various allied health programs must meet the admission standards of that program.

Grading and Grade Requirements

Final grades on performance in academic work are sent to students after the examinations at the end of the fall and spring semesters.

Passing Grades. Passing grades are *A*, exceptional; *B*, superior; *C*, satisfactory; and *D*, low pass. A passing grade may be modified by a plus or minus. A *Z* may be assigned for the satisfactory completion of the first semester of a two-course sequence. This permits an instructor to assign an earned grade for the entire year during the grading period for the second course of the sequence.

The D Grade. Although the *D* grade represents low pass, no more than two courses passed with *D* grades may be counted among the thirty-two courses required for graduation.

Failing Grades. A grade of *F* or *U* (see pass/fail option below) indicates that the student has failed the course, which is recorded on the student's record. If the course is taken again, a second entry of the course and the new grade earned is made on the record, but the first entry is not removed.

Pass/Fail Grading Option. With the consent of the instructor and program director, a student may choose to be graded on a pass/fail basis in one elective course each semester or summer session.

A student enrolling in a course on a pass/fail basis completes all the work of the course but receives either a pass, (*P*), or fail, (*U*), in lieu of a standard grade. After the first two weeks of classes in any semester, no student may change to or from a pass/fail basis. A pass grade may not subsequently be converted to a regular letter grade nor may the course be retaken on a regular credit basis.

Grades When Absent from Final Examination. In all cases in which a student is absent from a final examination, an *X* is received instead of a final grade. If the student does not present an acceptable explanation for the absence to the Office of the Dean for Allied Health Education within forty-eight hours after the scheduled time of the examination, the *X* is converted to an *F*. If the absence is excused by the Dean the student arranges with the instructor for a makeup examination. An *X*, not cleared by the end of the semester following the

examination missed, is converted to an *F*. See the section on Final Examinations and Excused Absences.

Grades for Incomplete Work. If because of illness or other emergency a student's work in a course is incomplete, an *I* may be received for the course instead of a final grade. Incomplete courses must be completed before the close of the succeeding semester; otherwise, the *I* is converted to an *F*. Seniors must complete all courses before graduation. A student whose work is incomplete and who is also absent from the final examination receives an *X* for the course.

For the purpose of determining if a student satisfies continuation requirements, an *I* is counted as failing to achieve satisfactory performance in that course.

Graduation and Continuation Requirements

Continuation Requirements. A student must achieve a satisfactory record of academic performance and make satisfactory progress toward graduation each semester. To remain in the University a student must not fail two or more courses in any semester. A student who, for any special reason, has been permitted to enroll for three or fewer courses must pass all courses.

Students are reminded that in cases where continuation is in question, incomplete work in any course is counted as a failure to achieve satisfactory performance in that course. Such courses must be completed in time for final grades to be submitted to the Registrar no later than the day preceding the opening of the spring semester or 15 June in the summer.

Any student excluded under the provisions of this regulation may request to have the case reviewed by the Dean, Allied Health Education.

Requirements for Degree. To be graduated a student must pass a minimum of thirty-two courses (including the sixteen courses required for admission) and all courses prescribed in the program of study. Of the courses required for graduation, no more than two courses with *D* grades will be accepted.

Residence Requirements. At least sixteen semester-courses must be completed satisfactorily at Duke. This must include the final four semesters.

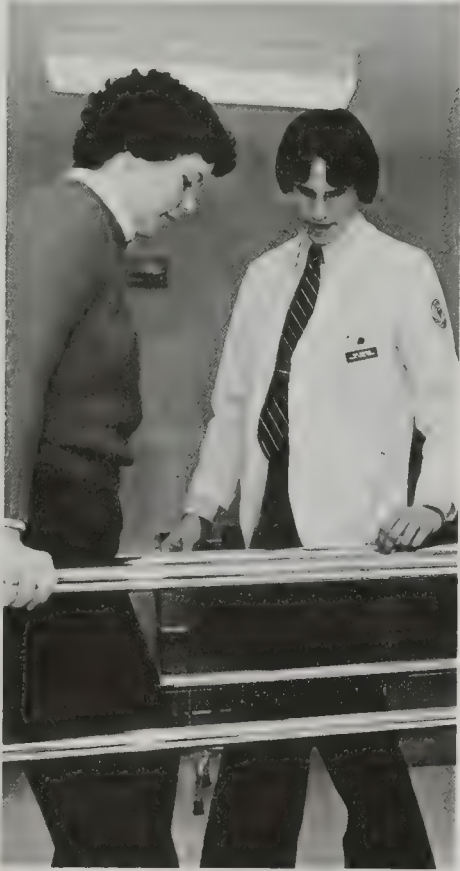
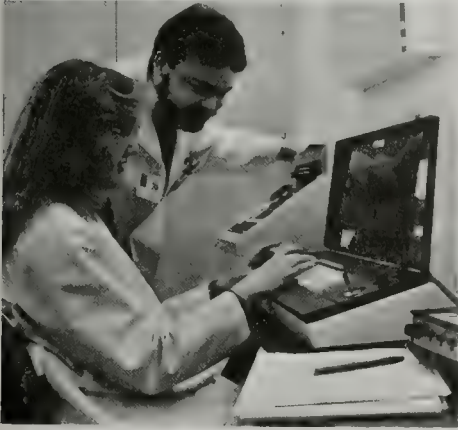
Commencement

Graduation exercises are held once a year in May, when degrees are conferred on, and diplomas issued to those who have completed requirements by the end of the spring semester. Those who complete degree requirements by the end of a summer term or the end of a fall semester become eligible to receive diplomas dated 1 September or 30 December, respectively. There is a delay of about one month in the mailing of September and December diplomas because the diplomas are mailed after final approval by the Academic Council and the Board of Trustees. Any persons who receive diplomas dated 1 September or 30 December may return for the commencement weekend and participate in the graduation exercises in May following the date of the diploma.

Eligibility for Academic Honors

To determine eligibility for academic honors, only letter grades earned at Duke, with the exception of the *P* (pass) grade, enter into the calculation of the average.

Graduation Honors. Full-time or part-time students who earn the following averages for all work taken at Duke are graduated with honors: a *B* average earns a degree *cum laude*; a *B+* average earns a degree *magna cum laude*, and an average of *A* or above earns a degree *summa cum laude*.



Course Information

The unit of credit for academic work is the semester-course. Double-courses and half-courses are recognized.

Transfer Credit. Duke credit may be granted for course work satisfactorily completed at other regionally accredited, degree-granting institutions. Courses in which grades of less than C-have been earned are not accepted for transfer credit. Semester-course credit awarded at Duke for satisfactorily completed courses cannot, of course, be directly equated with semester-hour or quarter-hour credits. A semester's work accepted as a normal course load by the other institution transfers as a block of four course units at Duke, provided the courses taken at the other institution are acceptable by Duke as Duke course equivalents or electives. Ordinarily, transfer students will not be awarded more than four course units for one semester's work unless they have satisfactorily completed more than the normal course load at the institution from which they transferred. All courses approved for transfer credit are listed on the student's permanent record at Duke (unless the student has received a degree) but grades earned in such courses are not recorded. Courses taken at other institutions are evaluated by the Medical Center Registrar.

Students who transfer to Duke may receive credit for a maximum of two years of work at other institutions of approved standing. No credit is given for work completed by correspondence, and credit for no more than two semester-courses is allowed for extension courses.

Course Load and Eligibility for Courses. The normal and expected course load each semester is four to five semester-courses. To take fewer than four or more than five semester-courses in any semester, a student must have the approval of the program director and the Dean for Allied Health Education. No student, however, may take more than six courses in any semester.

Course Audit. With the written consent of the instructor and the program director, a full-time degree student is allowed to audit one or more courses in addition to the normal program. After the first two weeks of classes in any semester, no student classified as an auditor in a particular course may take the course for credit, and no student taking a course for credit may change classification to an auditor. A student may not repeat for credit any course previously audited. Auditors submit no daily work, take no examinations, and receive no credit for courses.

Course Changes After Classes Begin. Students, with the approval of the program director, may drop and add courses during the first two weeks of classes. Courses added during the second week of classes require the approval of the appropriate instructor in addition to that of the program director.

Students may drop a course without penalty until the time midsemester grades are assigned if they are clearly carrying a course overload. Factors such as poor health or necessary outside work are also considered in permitting withdrawal from courses without penalty. A *W* is entered on the permanent record in lieu of a grade in all cases where withdrawal without penalty is approved. After the time limit has expired, withdrawal from any course will ordinarily result in a grade of *F*. Courses discontinued prior to midsemester without approval will also be assigned an *F*.

Class Attendance and Excused Absences

Responsibility for class attendance rests with the individual student. Students are expected to attend classes regularly and punctually and must accept the



consequences of failure to attend. An instructor is privileged to refer students to the Dean for Allied Health Education for suitable action if, in the opinion of the instructor, their work or that of the class suffers because of absences. When excessive absences result in a student's failure to carry a normal course load, the Dean for Allied Health Education, after a conference with the student, will determine whether the student may continue enrollment in the college.

Absences from required classes and tests ordinarily are excused only for illnesses certified by a proper medical official of the University, and for authorized representation of the University in out-of-town events. Officials in charge of groups representing the University in such events are required to submit names of students to be excused to the Office of the Dean for Allied Health Education forty-eight hours before absences are to begin.

Final Examinations and Excused Absences

Customarily, an examination is the final exercise in an undergraduate course, but it is understood that not all courses profit from this process. Therefore, unless departmental policy stipulates otherwise, the conduct of the final exercise is determined by the instructor, except that a final written examination may not exceed three hours in length and a final take-home examination may not require more than three hours in the actual writing.

Absences from final examinations are excused by the Dean for Allied Health Education only in exceptional circumstances, such as illness certified by a medical official of the University or other conditions beyond the control of the student. A student who misses a final examination must notify the Office of the Dean for Allied Health Education within forty-eight hours after the scheduled time of the examination. Failure to so notify and to present an acceptable reason for absence from the examination will result in the student's receiving an *F* in the course.

Changes in Status

Withdrawal and Readmission. A student who wishes to withdraw from the University must give official notification to the Dean for Allied Health Education. Withdrawals at student initiative prior to the Thanksgiving recess in the fall semester or prior to 15 April in the spring semester are coded as voluntary, and a *W* is entered in lieu of a grade for each course. Voluntary withdrawals after these dates are permitted only in the event of emergencies beyond the control of the student.

Applications for readmission are made to the Medical Center Registrar. Each application is reviewed by the admissions committee of the program to which the student applies. A decision is made on the basis of several criteria including the applicant's academic record at Duke, the prospects of completing requirements for graduation, the student's citizenship record at Duke, evidence of increasing maturity and discipline, the degree of success attendant upon activities during the time away from Duke, and finally the applicant's relative standing among the group of students applying for readmission.

Leave of Absence. A student in good standing may apply in writing to the Dean for Allied Health Education to take a leave of absence for one or two semesters. The application must come before the end of the fall semester for a leave of absence during the spring semester, and before 15 July for a leave of absence during the fall semester. If the leave is approved, the student must keep the Dean informed of any change of address.

Full-Time and Part-Time Degree Status. Normally, undergraduate students who are candidates for degrees are expected to enroll for a normal course load each

semester. A student who needs to change from full-time status, or from part-time to full-time status, must have the approval of the program director and the Dean for Allied Health Education. For special reasons approved by the program director and the Dean, a full-time degree student who is qualified to continue may register in a part-time degree status for no more than two courses.

Admission

Students seeking admission to the Bachelor of Health Science degree programs must have completed two years of study at an accredited institution. In addition, they must have a minimum of sixteen course equivalents (sixty semester-hours/ninety quarter-hours) of transferable credit including at least one course in semester-hours) of transferable credit including at least one course in English, three in natural science, three in social sciences or history, and one in humanities. Additional requirements are listed in the description of the program.

Other Information

Release of Student Records. No confidential information contained in student records (academic or otherwise) is released to non-University persons or to unauthorized persons on the campus without the consent of the student. Consent is evidenced by each student's signing a form which authorizes the release of personal data. The form may provide for the release of information to one or more persons or agencies only, or it may be a blanket release. Blank forms to authorize or revise the permission are available in the office of the program directors.

Identification Cards. Undergraduate students are issued two-part identification cards which they should carry at all times. The cards are the means of identification for library privileges, University health services, athletic events, and other University functions or services open to them as University students. Students will be expected to present their cards on request to any University official or employee.

The cards are not transferable, and fraudulent use may result in loss of student privileges or suspension. A student should report the loss of this card immediately to the Registrar's office. The cost of a new identification card is \$5.

Financial Information



Tuition and Fees*

Estimated Expenses for an Academic Year. Certain basic expenditures such as tuition, board, and room are to be considered in preparing a student's budget. These necessary expenditures, with a reasonable amount allotted for miscellaneous items, are shown below:

Tuition	\$5,710 per year
Books, uniforms, and supplies	\$400-500 per year
Food	\$186 per month
Laboratory Fees	See Individual Course Requirements
Lodging	\$207 per month
Student Health Fee	\$85 per semester
Student Accident and Sickness Insurance	\$125.50 per year (single) \$349 per year (married)
Miscellaneous (travel, laundry, clothing, etc.)	\$181 per month

Debts. No records are released and no students are considered by the faculty as candidates for graduation until they have settled with the Bursar for all indebtedness.

Bills may be sent to parents or guardians provided the Bursar has been requested in writing to do so. Failure to pay all university charges on or before the times specified by the University for that semester will bar the student from class attendance until the account is settled in full.

Registration Fees and Deposits. On notification of acceptance, baccalaureate degree students are required to pay a nonrefundable first registration fee of \$25.* Students in the Pathologists' Assistant and Physician Assistant Programs are required to make a deposit of \$75. The deposit will not be refunded to accepted applicants who fail to matriculate. For those who do matriculate, the deposit is applied to the cost of tuition.

Late Registration. Students who register in either semester at a date later than that specified by the University must pay to the Bursar a fee of \$25.

Part-time Students. In the regular academic year, students who register for no more than two courses in a semester are classified as part-time students. Part-time students are charged at the following rates: One course, \$777; half-course, \$388.50; quarter-course, \$194.25; one course plus laboratory or preceptorship,

*These are estimated figures only. Tuition and fees are subject to change without notice.

\$1,036. Registration for more than two courses requires payment of full tuition. Graduate students registered for undergraduate courses will be assessed three units for nonlaboratory courses and four units for laboratory courses. Nondegree men and women beyond usual college age who are on review for admission to degree programs, as designated by the Office of Continuing Education, pay fees by the course whether the course load is one, two, or three courses.

Auditors. Auditing of one or more courses without charge is allowed students paying full fees, provided that the consent of the instructor is obtained. In 1981-82 students who were enrolled for one or two courses could audit other courses by payment of \$78 for each course audited. With the consent of the appropriate instructor and the Registrar, graduates of Duke could audit undergraduate courses for \$78 each course.

Duke Employees. Full-time employees with one or more years of service with the University may request permission to take for credit or audit up to two courses during any one semester. Permission may be granted based on the individual merits and circumstances of each application. Employees receiving permission to take such courses for credit will be charged one-half of the tuition rate for part-time students as shown above. Employees are required to submit a formal application by 1 December or 15 July.

Fees for Transcripts. Requests for transcripts of academic records should be directed to the Office of the Medical Center Registrar. A minimum fee of \$2, payable in advance, is charged for a single copy.

Student Health Fee. All regular full-time undergraduate students (those registered for three courses or more) and all regular full-time graduate and professional school students (those registered for nine units or more and for three units if the preliminary examination has been passed) are required to pay a health fee that is nonrefundable after the first day of classes in the semester. The only exceptions to this requirement are the following reasons: (1) if the student is covered by a spouse's or parents' Duke University employee Blue Cross-Blue Shield insurance or (2) if, as a veteran, the student is eligible for and elects to use the Veterans Administration Medical Center services. A waiver form will be provided and must be completed and returned with the payment of tuition if the student elects to waive the fee for the aforementioned two reasons.

The student health fee entitles the student to outpatient treatment through the Student Health Service or inpatient treatment in the East Campus Infirmary. The health fee is not to be confused with the Duke Student Accident and Sickness Insurance (the premium for this insurance is minimized due to the existence of the Student Health Services) which covers a large number of medical costs above and beyond the treatment available through the Student Health Services. The identification of a separate student health fee in no way changes the policy concerning the Student Accident and Sickness Insurance. A Student Health brochure will be distributed at the time the semester enrollment card is picked up at the beginning of the term.

Student Accident and Sickness Insurance. At time of matriculation, students must provide proof of coverage under an accident and sickness insurance policy or purchase the Duke Student Accident and Sickness Insurance policy. This insurance policy provides protection twenty-four hours per day during the twelve-month term of the policy of each student insured. Students are covered on and off the campus, at home, or while traveling between home and school and during interim vacation periods.

Refunds

If a student withdraws, tuition is refunded according to the following schedule:

<i>Withdrawal from Baccalaureate Programs</i>	<i>Refund</i>
Before classes begin	Full amount
During first or second week	80%
During third to fifth week	60%
During sixth week	20%
After sixth week	None
 <i>Withdrawal from Certificate Programs *</i>	 <i>Refund</i>
Before classes begin	Full amount
During first week	80%
After first week of classes	None

*Course fees for students in certificate programs are payable on a yearly basis.

Bachelor of Health Science Degree Programs



Duke University Medical Center awards a Bachelor of Health Science degree to students who complete either the Anesthesia Program for Nurses, Pathologists' Assistant, or Physician Assistant Program.

Anesthesia Program for Nurses*

ADMINISTRATION

Chairman, Department of Anesthesiology and Medical Director: Merel H. Harmel, M.D., *Professor of Anesthesiology*

Adviser, Division of Nurse Anesthesia: Lennart Fagraeus, M.D., Ph.D. *Associate Professor of Anesthesiology*

Philip D. Lumb, M.B., B.S., *Assistant Professor of Anesthesiology and Surgery*

Director, Anesthesiology Program: Lawrence R. Stump, M.Ed., C.R.N.A., *Associate in Anesthesiology*

Director, Nurse Anesthesia Services: Gloria M. Farmer, M.S., C.R.N.A., *Associate in Anesthesiology*

Clinical Coordinator, V.A. Medical Center: Raymond Tobias, B.S., C.R.N.A.

Didactic Instructors, Anesthesiology Program: Sue C. Campbell, B.S.N., C.R.N.A.; Leola A. Glenn, B.A., C.R.N.A.

Clinical Teaching Staff, Anesthesiology Program: Instruction and supervision are provided by the attending anesthesiologists and the staff nurse anesthetists.

In 1931, Duke University Medical Center's Department of Anesthesiology established a program for registered nurses to further their study in anesthesiology. The students learn about the physiopharmacological effects of anesthesia and related drugs, the proper techniques for their administration, and the management of the entire treatment plan for patients requiring anesthesia. Upon successful completion of the required qualifying examination, graduates become certified registered nurse anesthetists (C.R.N.A.s).

Program of Study. Duke Medical Center offers a twenty-four consecutive month curriculum which leads to a baccalaureate degree and a certificate in anesthesiology. The baccalaureate curriculum is two academic years in length. All students enrolled in the program are degree candidates. The additional six months (which consists of the summer terms after each academic year) are required to meet the standards set forth by the Council on Accreditation of Nurse Anesthesia Education Programs. Candidates are not eligible to sit for the National Certifying examination before the twenty-four month time commitment is fulfilled and the Certificate in Anesthesiology is granted.

One class is accepted annually in September. The first and second semesters focus on the theoretical background necessary for clinical practice. An orientation to clinical practice is provided during the second semester. The second year is devoted to clinical practice and it is during this time that the students begin work with cases which require more skill.

*Applications will not be accepted for the academic year 1982-83.

Requirements for Admission. Applicants are required to meet the same admission standards as other transfer students at this level in the undergraduate school. Students are required to present a minimum of sixty semester-hours/ninety quarter-hours at a C grade level or above from an accredited institution for fulfillment of the lower division of educational criteria.

Lower Division Requirements

Natural sciences	5 courses
five courses any type	
Social sciences	3 courses
English	1 course
Communication skills	1 course
composition or speech	
Humanities	1 course
Electives*	5 courses
	16 courses

*Only twelve semester-hours of professional clinical nursing courses are transferable. Sixty semester-hours or ninety quarter-hours are the minimum number of hours for admission.

In addition to the lower division requirements the applicant must:

1. Be a graduate of an approved school of professional nursing.
2. Possess a valid license to practice professional nursing in the United States.
3. Have at *least one year* of professional nursing experience. This experience must be in the acute care setting. Anyone with less than one year at the time of application will not be considered.
4. Submit three professional references.
5. Have a personal interview, except under most unusual circumstances.

The Admissions Committee invites *only those* candidates that are under serious consideration for an interview. The committee interviews everyone during two days usually in March. If you desire to come and visit before the scheduled interview, you will have to return to meet the committee.

Application Procedures. Applications must be submitted between 1 September and 31 December for fall admission. The following are necessary to complete application procedures:

1. a completed Duke University Medical Center Allied Health Application including a nonrefundable fee of \$30;
2. official transcripts from all colleges and universities and other academic institutions attended;
3. three letters of recommendation—two *must* be professional nursing references (your present supervisor or director of nurses). Students and recent graduates may use instructors or directors.
4. Nursing Board examination scores.

Special Expenses. Textbook and instruments for the entire course are approximately \$325. The cost of uniforms for the second year is approximately \$50. For comprehensive information on tuition and fees, refer to the current Anesthesia Program brochure.

Financial Aid. A stipend of \$700 per month during the summer sessions is paid. No stipend is paid during the academic year. In addition, scholarships are available to nurses registered in North Carolina. Please refer to the section on student aid.

Course of Instruction. Students must complete courses in the following:

Junior Year

<i>Fall Semester</i>		<i>Course weight</i>
ANE 100	Anatomy and Physiology	3
ANE 105	Biochemistry and Physics of Anesthesia	$\frac{1}{2}$
ANE 110	Cardio-Respiratory Physiology	1
<i>Spring semester</i>		<i>Course weight</i>
ANE 120	Fundamentals of Anesthetic Practice 1	2
ANE 130	Pharmacology of Anesthesia	2
ANE 150	Introduction to Clinical Anesthesia	1
<i>Summer I*</i>		
ANE 170	Clinical Anesthesia	
<i>Summer II*</i>		
ANE 171	Clinical Anesthesia	

Senior Year

<i>Fall semester</i>		<i>Course weight</i>
ANE 172	Clinical Anesthesia	2
ANE 173	Clinical Anesthesia	2
ANE 121	Fundamentals of Anesthetic Practice II	1
<i>Spring semester</i>		<i>Course weight</i>
ANE 174	Clinical Anesthesia	2
ANE 175	Clinical Anesthesia	2
ANE 122	Fundamental of Anesthetic Practice III	1
<i>Summer III*</i>		
ANE 176	Clinical Anesthesia	
<i>Summer IV*</i>		
ANE 177	Clinical Anesthesia	

*Summer I, II, III, and IV are clerkships which are required for certification but not the B.H.S.

Pathologists' Assistant

ADMINISTRATION

Chairman, Department of Pathology: Robert B. Jennings, M.D., *Professor of Pathology*
 Director, Pathologists' Assistant Program: Philip C. Pratt, M.D., *Professor of Pathology*
 Associate Director, Pathologists' Assistant Program: Kenneth R. Broda, M.A., Ph.D., *Associate in Pathology*
 Assistant Associate Director, Pathologists' Assistant Program: Pamela B. Mazzeo, B.S., B.H.S., P.A.

FACULTY ADVISORY BOARD

Professors: Dolph O. Adams, M.D., Ph.D.; Donald B. Hackel, M.D.; Robert B. Jennings, M.D.; William W. Johnston, M.D.; Philip C. Pratt, M.D.; Joachim R. Sommer, M.D.; F. Stephen Vogel, M.D.

FACULTY

Professor: Philip C. Pratt, M.D.
 Associate Professors: Frances K. Widmann, M.D.; Peter Zwadyk, Ph.D.
 Assistant Professors: Robin Vollmer, M.D.; Jane Gaede, M.D.
 Adjunct Assistant Professor: Philip A. McHale, Ph.D.
 Associates: J. Phillip Pickett, H.T.(ASCP); Margaret C. Schmidt, MT(ASCP)SH, M.A.T.; Kenneth R. Broda, Ph.D.
 Page Hudson, M.D., *Chief Medical Examiner, State of North Carolina and Professor of Pathology, University of North Carolina Medical Center.*
 John Butts, M.D., *Associate Chief Medical Examiner, State of North Carolina*
 Jerome Tift, M.D., *Associate Chief Medical Examiner, State of North Carolina*
 Instructors: Pamela B. Mazzeo, B.S., B.H.S., P.A.; Ronald L. Mitchell, A.B.A., *Chief Medical Media Production Service, V.A. Medical Center*; James G. Lewis, B.H.S., P.A.; Iris W. Long, M.T. (ASCP), B.S.

The Pathologists' Assistant Program is designed to meet the growing need for trained personnel to assist the anatomic pathologist in the areas of surgical and autopsy pathology including histopathology and medical photography. The Duke Pathologists' Assistant Program was the first program to educate such individuals, and the acceptance of Duke graduates by the medical community has led to the development of similar programs. Upon completion of the program, students will have acquired knowledge and skills which will permit them to fill important roles in academic, forensic, or private pathology environments.

Program of Study. The program is two calendar years in duration and includes four semesters of practical and academic training and two successive three and one-half month summer externships. The externships, consisting of practical training in autopsy pathology, surgical pathology, forensic pathology, and histopathology, are conducted principally within the Department of Pathology, although a limited number of externships are available in affiliated hospitals. Upon successful completion, the Bachelor of Health Science degree and a certificate of achievement are awarded.

Curriculum. Students must complete the following:

Junior Year

<i>Fall semester</i>		<i>Course Weight</i>
ANA 101	Human Anatomy	1
PHS 102	Basic Human Physiology	1
PTH 102	Histologic Technique and Interpretation	1
PTH 164	Clinical Diagnostic Methods	1
PTH 107	Human Pathology	1
<i>Spring semester</i>		<i>Course Weight</i>
PTH 200	Pathology	2
PTH 160	Autopsy Technology	1½
PTH 161	Medical Photographic Technology	1

Senior Year

<i>Fall semester</i>		<i>Course Weight</i>
PTH 110	Systemic Pathology	½
PTH 165	Surgical Pathology	1½
PTH 167	Autopsy Practicum	1½
PTH 183	Special Autopsy Techniques and Procedures	1
<i>Spring semester</i>		<i>Course Weight</i>
PTH 111	Systemic Pathology	½
PTH 162	Laboratory Management and the Computer	1
MIC 101	Introductory Microbiology	½
PTH 166	Surgical Pathology	½
PTH 196	Student Autopsy Seminar	½
PTH 177	Neonatal and Pediatric Pathology	½
Elective*		½

*Electives may be chosen from courses offered by the Department of Pathology or from undergraduate junior or senior level courses approved by the department.

In addition to B.H.S. requirements, practical rotations during the summers are required for certification.

Prerequisites for Admission. Applicants must satisfy the general admission requirements for the Bachelor of Health Science degree. Selection is based on the applicant's academic record, test scores, experiences, and evidence of general aptitude and capability as indicated by the letters of recommendation. The Pathologists' Assistant Program does not require patient contact experience and accepts applicants who do not have past health-related experience.

Application Procedures. Applications must be completed by 1 May of the year for which admission is requested and must contain the following:

1. a completed Duke University Medical Center Allied Health application form, including a nonrefundable fee of \$30;
2. official transcripts from the armed forces and all high schools, colleges, or other academic institutions attended;
3. Scholastic Aptitude Test (SAT) scores from the College Entrance Examination Board; and/or the Allied Health Professions Admissions Test scores from the Psychological Corporation.
4. three letters of recommendation—one from a science professor and the remaining from individuals who have knowledge of the student's professional or educational qualifications.

All applicants will be notified by 1 June regarding admission to the program. Requests for further information and application forms should be directed to the Associate Director, Pathologists' Assistant Program, Department of Pathology, Duke University Medical Center, Box 3712, Durham, North Carolina 27710.

Special Expenses. Books, automobile registration, and health insurance will cost approximately \$250.

Financial Aid. Those students demonstrating need may be eligible for student loans and scholarships explained in the section on student aid. Assistance of approximately \$5,000–\$8,000 is also available in the form of part-time employment within the clinical laboratories of the Department of Pathology.

Physician Assistant

PHYSICIAN ASSISTANT PROGRAM ADMINISTRATION

Chairman: E. Harvey Estes, Jr., M.D., *Department of Community and Family Medicine*

Program Director: Michael Hamilton, M.D., *Assistant Professor of Community and Family Medicine*

Associate Director: Reginald D. Carter, Ph.D., PA-C, *Assistant Professor of Community and Family Medicine*

Clinical Coordinator: Carl Toney, PA-C, *Clinical Associate*

Educational Coordinator: Susan Edgman, PA-C, *Clinical Associate*

Pediatrics Coordinator: Marcia Herman-Giddens, PA-C, *Clinical Associate*

Clinical Site Coordinators: Joyce Nichols, PA-C; Pierce Lewis, PA-C; William Smith, PA-C; James Hill, PA-C; James Schmidt, PA-C; Nancy Boyer, PA-C; Ron Grimm, PA-C; Ray Kolarsey, PA-C

TEACHING STAFF AND FACULTY

Michael A. Hamilton, M.D., *Patient Assessment, Anatomy and Physical Diagnosis*; Reginald D. Carter, Ph.D., PA-C, *Anatomy and Physical Diagnosis, Medical Sciences*; Susan Edgman, PA-C, *Patient Assessment, Physical Diagnosis, Perspectives on Health, Medical Sciences, Behavioral Medicine*; Carl Toney, PA-C, *Patient Assessment, Physical Diagnosis*, Rivka Gordon, PA-C, *Patient Assessment, Physical Diagnosis*; Katherine Halpern, PA-C, *Anatomy and Physical Diagnosis*; Michael Burkhill, PA-C, *Anatomy and Physical Diagnosis*; Paul Hendrix, PA-C, *Anatomy, Fundamentals of Surgery*; Marcia Herman-Giddens, PA-C, *Introduction to Pediatrics*; Henderson Rourke, M.D., *Introduction to Pediatrics*; Leaf Diamant, M.A., *Psychodynamics*; Joseph Kertesz, M.D., *Psychodynamics*; Suydam Osterhout, M.D., *Microbiology*; Margaret Schmidt, MT(ASCP)SH, M.A.T., *Medical Technology*; Iris W. Long, MT (ASCP), M.A.T., *Laboratory Sciences*; Collins Baber, M.D., *Radiology*; James Wyngaarden, M.D., *Professor and Chairman, Department of Medicine, and Staff, Internal Medicine*; David Sabiston, M.D., *Professor and Chairman, Department of Surgery, and Staff, Surgery*; Samuel Katz, M.D., *Professor and Chairman, Department of Pediatrics, and Staff, Pediatrics*; Keith Brodie, M.D., *Professor and Chairman, Department of Psychiatry, and Staff, Psychiatry and Behavioral Sciences*; Samuel Warburton, M.D., *Family Medicine*; Harvey Estes, Jr., M.D., *Community Medicine*

In addition to the above, the program calls upon teaching resources of affiliated community practitioners and members of the Departments of Medicine, Surgery, Obstetrics/Gynecology, and Pediatrics.

ADVISORY COMMITTEE TO THE PHYSICIAN ASSISTANT PROGRAM

The Advisory Committee to the Physician Assistant Program meets twice yearly to review and advise the program's administration concerning broad goals of the program. This committee consists of



Duke faculty, community practitioners, nurses and nurse practitioners, health care consumers, health planners, and P.A. students and graduates.

In 1965 Duke University Medical Center began an innovative program designed to prepare highly educated and well-trained assistants for physicians. The program originated when clinicians at the Medical Center realized that they could enhance their productivity by safely and effectively delegating many of their tasks and responsibilities to nonphysicians, primarily exmilitary corpsmen with previous health-related education and experience. Dr. Eugene A. Stead, Jr., then Chairman of the Department of Medicine at Duke, recognized the potential of the corpsmen experience and concluded that paramedical personnel might be trained to provide primary health care under the supervision of a physician. In developing the Department of Community and Family Medicine, Dr. E. Harvey Estes, Jr. foresaw that midlevel practitioners would help increase consumer access to health services, and extend the time and skills of the physician in providing competent, sensitive, and comprehensive health care.

The physician assistant possesses a broad understanding of medicine and health care. Men and women are chosen for the program on the basis of their humanistic perspective, demonstrated commitment to providing health care, and their academic potential.

On completion of the two-year program, graduates are prepared to assist in the evaluation and management of common health problems, including both acute self-limited problems and chronic illnesses such as hypertension and diabetes. Recognizing the intrinsic relationship between emotional and physical health, the program stresses competence in the exploration of psychosocial concerns. Graduates are expected to have a basic fund of knowledge pertaining to health needs of infants and children, young and middle-aged adults, and geriatric patients. Physician assistants also provide patient care services such as diagnostic and therapeutic procedures, wound suturing, cast application, and basic laboratory procedures.

Upon successful completion of the program, Duke University Medical Center awards the student a Bachelor of Health Sciences degree and a Physician Assistant Certificate.

Program of Study. The curriculum is twenty-three consecutive months in duration and is designed to provide an understanding of the rationale for skills used in physical diagnosis and problem assessment. It focuses primarily upon the common problems seen in ambulatory care settings, so that the student is able to utilize and understand the various diagnostic, therapeutic, and supportive measures used by the primary care physician. The first ten months are devoted to the basic medical and behavioral sciences and the remaining thirteen months to clinical training in a variety of practice settings. The rigorous curriculum requires people who have had college level education and experience in a health-related discipline.

The preclinical curriculum is integrated in such a way as to introduce the student to medical sciences as they relate to clinical problems. Learning strategies include self-instructional study guides, teaching patients, lectures, seminars, laboratories, and small-group encounters. Clinical medicine and patient evaluation are taught using the problem-oriented medical record format. The psychosocial aspects of clinical practice are emphasized as well as the physical aspects of disease processes.

As part of the clinical practicum students are required to take rotations in inpatient medicine, surgery/emergency services, family medicine, pediatrics, and obstetrics/gynecology. The final ten weeks of clinical training is spent away from Duke in a primary care setting.

Because the clinical teaching is carried out in many practice settings, students should plan on being away from the Durham area for part of their clinical experience.

Curriculum. Before proceeding into the clinical phase of the curriculum, students must satisfactorily complete the following:

Preclinical Schedule

Fall Semester		Course Weight
CFM 103	Medical Sciences for Clinical Practice I	1½
CFM 112	Anatomy and Physical Diagnosis I	½
CFM 114	Patient Assessment I	½
CFM 106	Psychodynamics I	1
CFM 101	Perspectives on Health	½
PTH 115	Clinical Diagnostic Procedures	1
		<hr/> 5
Spring Semester		Course Weight
CFM 104	Medical Sciences for Clinical Practice II	1
CFM 113	Anatomy and Physical Diagnosis II	½
CFM 115	Patient Assessment II	½
CFM 107	Psychodynamics II	1
MIC 101	Introductory Microbiology	½

RAD 101	Introductory Radiology	$\frac{1}{2}$
SURG 101	Fundamentals of Surgery	<u>1</u>
		5
<i>Summer Term 1</i>		<i>Course Weight</i>
CFM 105	Introduction to Pediatrics	1

After satisfactory completion of all basic science courses, students must complete the following:

Clinical Schedule

MED 150. General Medical Inpatient Service	2 courses	8 weeks
SURG 150. General Surgery	1 course	4 weeks
SURG 151. Outpatient/Emergency Surgical Service	1 course	4 weeks
OBG 150. Obstetrics and Gynecology	1 course	4 weeks
PED 150. Pediatrics	1 course	4 weeks
CFM 151. Family Medicine	<u>1 course</u>	<u>4 weeks</u>
	7 courses	28 weeks

In addition to the above courses required for the B.H.S. degree, students must complete:

Four elective courses required for certificate	16 weeks
	Subtotal: 44 weeks
Final Preceptorship†	<u>10 weeks</u>
	Total: 54 weeks

†This rotation is taken only during the summer of the last year.

Prerequisites for Admission. To be eligible for the Bachelor of Health Sciences program, applicants must complete—by 15 January (the application deadline)—60 semester-hours of college credit from an institution whose credits are transferable to Duke University and which include one English course, one humanities course, three courses in the social sciences, and three courses in the natural sciences (two of which must be chemistry and biology). Of equal importance to the academic requirement is a *minimum* of one year of health care experience. This experience—the minimum to be completed by 15 January—should involve direct patient contact and may be gained as a nurse, patient care assistant, military corpsman, or in other related fields such as medical technology, physical therapy, and counseling in health-related fields.

Application Procedures. Application materials and course bulletins are mailed to prospective applicants from 1 June through 15 December each year. Applications are accepted by the University no earlier than 1 September and no later than 15 January for the new class which enters in late August each year. Applications must contain:

1. a completed Duke University Medical Center Allied Health application form, including a nonrefundable fee of \$30;
2. official transcripts from all colleges or other academic institutions attended;
3. Allied Health Professions Admission Test scores of the Psychological Corporation, 304 East 45th Street, New York, New York 10017;
4. Scholastic Aptitude Test Scores of the College Entrance Examination Board, if already taken;
5. three letters of recommendation, to include one from an immediate supervisor and one from a physician with whom the applicant has worked.

Selection Factors. The program has a specific interest in enrolling students from diverse social, ethnic, and educational backgrounds. Emphasis is placed upon

personal maturity, quality of health care experience, dedication to the health field, and intellectual capacity. Information submitted by each applicant is carefully reviewed by the Committee on Admissions, and selected applicants are invited to Duke University for personal interviews. These interviews usually take place in mid-March of each year; students are chosen from among those interviewed. All applicants will be notified by 15 April regarding admission to the program. Requests for application forms and information should be directed to the Coordinator of Admissions, Physician Assistant Program, P.O. Box CFM-2914, Duke University Medical Center, Durham, North Carolina 27710.

Special Expenses. Books for the program will cost approximately \$600, equipment \$400, and uniforms \$100.

Financial Aid. The financial aid office works closely with students to secure loans. Due to the limited amount of money available, requests are considered individually and approved on the basis of financial need. Part-time employment for students is available in many areas of the Medical Center. Frequently such employment can net students about \$200 per month and yet not jeopardize their education. Students must comply with the academic schedule and are prohibited from working more than twenty hours per week.

Courses of Instruction

Courses numbered from 150 through 189 either list specific prerequisites or have as prerequisite the completion of the junior year in one of the programs.

Double numbers separated by a hyphen indicate that the course is a year course and must normally be continued throughout the year if credit is to be received.

ANATOMY

ANA 101. Basic Human Anatomy. A lecture-laboratory discussion course that examines human morphology and the fundamental relationships among the neurologic, musculoskeletal, cardiovascular, gastrointestinal, respiratory, renal, and reproductive systems. The course includes cadaveric presentations of every major region of the human body. Intended primarily for students in allied health programs. One course. *Cartmill, Hylander, and staff*

ANESTHESIOLOGY

ANE 100. Antomy and Physiology. A lecture and discussion course that examines the structure and function of human cells, tissues, and organs with emphasis on the implications for anesthesiology. This course also includes the appropriate pathology that may influence anesthetic management. Three courses. *Glenn, Tobias, and Hall*

ANE 105. Biochemistry and Physics of Anesthesia. The lecture-discussion format is used to present the principles of chemistry and physics that are applicable to the practice of anesthesia. Topics included are matter and atomic structure, molecular motion, energy, gases and gas laws, fluids and fluid flow, volatile agents and vaporizers, organic chemistry, biochemistry, fire and explosion, electrical hazards, and other topics. One course. *Tobias, Osborne, and Tacchi*

ANE 110. Cardio-Respiratory Physiology. A comprehensive presentation of respiratory and related cardiovascular physiology which is designed to provide amplification and reinforcement of ANE 100. One course. *Lumb*

ANE 120. Fundamentals of Anesthetic Practice I. This course provides the student with a basic knowledge of narcosis, uptake and distribution of anesthetic

agents, and patient management during and after anesthesia. Anesthetic risk, accidents, and sequelae are integrated into the theory, operation, and maintenance of anesthetic equipment. Additionally, anesthetic techniques including endotracheal procedures, ventilators, positions, hypothermia, and monitoring are presented utilizing lectures, demonstrations, and practice. Also discussed are the legal, historical, and ethical aspects of anesthesiology. Two courses. *Glenn, Stump, and staff*

ANE 130. Pharmacology of Anesthesia. This course presents the basic principles of pharmacology necessary to understand the uptake, distribution, metabolism, and elimination of anesthetic agents and adjunct drugs that are used in the practice of anesthesia. Drug interactions and adverse drug reactions are also presented. The descriptive pharmacology of the drugs utilized in anesthesia and by the patient before, during, and after are also discussed according to their classifications, i.e., cholinergic drugs, narcotics, local anesthetics, neuromuscular blockers, cardiac drugs, etc. Two courses. *Stump*

ANE 150. Introduction of Clinical Anesthesia. An orientation to the operating rooms and the anesthesia department at Duke University Medical Center. Early in this course the student is primarily an observer of the daily routine and the administration of anesthesia. The student is also exposed to related areas in his/her orientation to the field of anesthesiology (recovery room, respiratory therapy, and obstetrics). As the course concludes the student participates in the administration of anesthesia to surgical patients. One course. *Staff*

ANE 121-122. Fundamentals of Anesthetic Practice II and III. This course presents timely topics and issues in anesthesiology as well as a review of basic anesthesia theories and principles. Topics include: blood gas interpretation, monitoring techniques, new agents and techniques, anesthetic management for common and uncommon diseases. This is a continuous sequence which covers the entire academic year. One course each. *Staff*

ANE 170-177. Clinical Anesthesia Rotations. The student rotates through the various surgical services while administering anesthesia under the constant supervision of the anesthesia staff. During eleven rotations the student builds his or her skill in patient management, anesthetic techniques, and equipment. The rotations are orthopaedics, neurosurgery, cardio-thoracic, general surgery, obstetrics, gynecology, urology, plastic-maxillofacial, otolaryngology, ophthalmology, and pediatrics. Two courses each. *Staff*

COMMUNITY AND FAMILY MEDICINE

CFM 101. Perspectives on Health. An overview of factors which impact the planning, delivery, and utilization of health care services. Issues considered include cultural expectations, behavioral characteristics of illness, political and economic implications of health policy, epidemiological methods, distribution of resources, and ordering of priorities. Research and techniques of health education and preventive medicine are discussed as part of a critique of the present acute care, specialty oriented system. Time will be spent discussing the role and impact of the physician assistant in the health care system. One-half course. *Edgman and staff*

CFM 103-104. Medical Sciences for Clinical Practice. A system of self-instructional tutorials, enrichment sessions, and clinical correlations provide the student an opportunity to learn the rationale underlying the delineation and management of common clinical problems seen by primary care practitioners. Presentations in anatomy, physiology, biochemistry, pathology, and pharmacology are unified and integrated with clinical medicine, using an organ systems approach. The course provides the student with an interesting, intelligent, and pragmatic account of modern concepts in medicine and medical sciences. Three courses. *Carter, Edgman, Hamilton, and staff*

CFM 105. Introduction to Pediatrics. The purpose of this course is to introduce students to clinical problems commonly seen in ambulatory pediatrics. Through lectures and demonstrations, students learn basic concepts and practical approaches to the maintenance of health and the management of illness in infants and children. In small group sessions, students develop skills necessary to assess the normal development of children and to define an appropriate data base for specific clinical problems. Physical assessment and diagnostic techniques are demonstrated. The psychological, pharmacological, and nonpharmacological management of pediatric patients are discussed. This course is taught by members of the Department of Pediatrics. One course. *Rourk and Herman-Giddens*

CFM 106–107. Psychodynamics. This course presents an extensive view of human behavior while concurrently developing skills that facilitate interpersonal awareness and psychological intervention. Didactic information is put to practice application as students learn interviewing and counseling skills. The understanding of self is encouraged as the first step toward the understanding of helping of others. This course is divided into five subunits: psychiatry; interpersonal process recall; communications, counseling, and interviewing; human growth and development and behavioral medicine. Two courses. *Kertesz, Diamant, Edgman, and staff.*

CFM 112–113. Anatomy and Physical Diagnosis. This course is taught by the program staff and clinicians from the Department of Surgery and Medicine. Students learn functional and applied anatomy as it applies to physical diagnosis and common clinical findings. Course content is sequenced to correlate with material presented in the Medical Sciences for Clinical Practice Course (CFM 103–104). Teaching methods for the anatomy component of the course include lectures, cadaver prosections, and audiovisual materials. Physical diagnosis is taught primarily through supervised practice of physical diagnosis skills. One course. *Hamilton, Carter, Edgman, Gordon, Toney, and staff from the Departments of Medicine and Surgery*

CFM 114–115. Patient Assessment. This course is taught by the program staff and clinicians from the Department of Medicine. Students learn and practice skills in medical interviewing and physical assessment, clinical decision making, and the accurate and efficient recording and presentation of clinical information. Teaching methods include lectures, small group seminars, role playing, and the supervised examination of patients. One course. *Hamilton, Edgman, Toney, Gordon, and staff from the Department of Medicine*

CFM 150. General Community Medicine. During this rotation students spend time with physicians in community practice, observing and participating in both office-based and hospital care. Students gain experience in doing both problem-specific and complete evaluations and through follow-up visits have an opportunity to monitor the results of therapy. Students learn to appreciate the impact of a patient's total environment on their health status. One or two courses. *Staff*

CFM 151. Family Practice. A four-, or eight-week clinical experience surveying the components of family practice, including emotional conflicts and interpersonal relationships with the patient and other members of the family unit. Through experience in interviewing and examining patients, the student is exposed to the multifaceted approach of understanding and treating physiologic and sociologic components of disease processes. In this situation, an understanding of the common diseases treated by primary care practitioners and the aspects of the unique relationship a physician's associate experiences with private patients, their physician, and other health team members is developed. One or two courses. *Warburton and staff*

CFM 180. Final Preceptorship. This rotation is required of all students during the final ten weeks of their training and provides a transition between the role of the student and graduate physician's associate. Students are encouraged to select a preceptor in the area of their anticipated employment and, during this extended period of time, to explore the tasks and team aspects of functioning as a midlevel practitioner. Students will provide health services consonant with their backgrounds, clinical experiences, and the needs of the particular practice setting. Required for certificate. Two and one-half courses. *Toney, Hamilton, and staff*

CFM 191. Independent Study. This special four-week course enables students to select individually with program administrators a series of objectives and to develop a program that can reasonably be expected to achieve those objectives. One course. *Estes, Hamilton, and staff*

MEDICINE

MED 150. Inpatient Medicine. An eight-week full-time required clinical rotation in which the student learns to apply basic medical knowledge to the problems and situations encountered on an inpatient service. By collecting a data base, formulating a complete problem list, participating in daily rounds, and participation in the management of patient problems, the student develops an awareness and understanding of the multiple aspects of disease processes and becomes familiar with therapeutic regimen and dispositions relative to specific disease states. The student will present the data base of each new patient to the supervising physician or attending rounding physician in a coherent, concise fashion. Two courses. *Staff*

MED 151. Outpatient Medicine. During this rotation, the student learns to apply basic medical knowledge to the common problems and situations encountered on an outpatient/emergency service. Experience may include long-term follow-up of patients with chronic disease, emergency triage and management, and evaluation of acute self-limited problems. This rotation occurs in an institutional as opposed to a private setting. One or two courses. *Staff*

MED 152. Intensive Care. A four-week rotation that acquaints the student with the acute and intensive care required for patients who have undergone major and complex surgical procedures, suffered massive and severe trauma, cardiorespiratory collapse, or other life-threatening medical crises. Emphasis is placed on ventilatory assistance, cardiopulmonary resuscitation, fluid and electrolyte replacement, and acid-base balance under resident physician supervision. One course. *Staff*

MED 153. Cardiology. During the rotation students will become familiar with the presentation, evaluation, and management of cardiovascular disorders, including acute and chronic problems. Students will gain experience performing the medical history and physical examination and will learn appropriate diagnostic procedures and therapeutic regimens, including drug therapy, alterations in life patterns (smoking, diet, exercise, etc.), and surgical intervention. One or two courses. *Cardiology staff*

MED 155. Endocrinology. A four-or eight-week rotation designed to acquaint the student with endocrinological diseases. The emphasis is placed on obtaining the defined endocrine data base and appropriate treatment of the disease. Students attend all daily rounds and conferences while on the service. They are taught the indications, limitations, and methods of performing diagnostic procedures including: glucose, tolbutamide, and arginine tolerance tests; thyroid function tests; and urinary steroid determinations. Students help educate patients with endocrine diseases about their disease processes, diagnostic evaluations, and therapies. One or two courses. *Endocrinology staff*

MED 156. Gastroenterology. During this four-or eight-week rotation students study the diagnosis, pathophysiology, and essentials of therapy of various gastroenterologic problems. They learn to perform and interpret the following diagnostic procedures: nasogastric intubations and gastric analyses (both with and without fluoroscopy), secretin tests, rectal and small bowel biopsies, proctoscopies, sigmoidoscopies, and gastroscopies. They also learn to care for endoscopic and biopsy instruments and biopsy specimens. One or two courses. *Gastroenterology staff*

MED 157. Hematology-Oncology. During this four-or eight-week rotation the students become familiar with the presentation of hematologic and oncologic problems, including many which are serious and life-threatening. A major objective for the student will be learning to relate supportively to the feelings and needs of terminally ill patients. The student will also gain experience with various diagnostic procedures, including white cell differential, bone marrow aspiration, lumbar puncture, paracentesis and thoracentesis. Students will become familiar with the principles of blood transfusion. One or two courses. *Hematology staff*

MED 159. Pulmonary Medicine. A four-or eight-week rotation that provides an indepth exposure to patients with respiratory conditions. The problems encountered by patients who have respiratory ailments are studied in detail as are the associated special history and physical examination techniques, diagnostic and therapeutic procedures. The student participates in daily rounds and teaching conferences on respiratory diseases and gains a knowledge of the therapeutic regimen, their indications, availability, reliability, and limitations in the treatment of respiratory and allergic diseases. One or two courses. *Pulmonary staff*

MED 160. Nephrology. During this four-or eight-week rotation, the student learns to gather and record information in a problem-oriented manner about patients with renal and hypertensive diseases. The student becomes able to recognize the effects of disease, therapy, and education on the patient's course and plays a major role in patient education. The fundamentals of renal function, urinalysis, radiography of the chest, urinary system and bones, and the principle of dialysis are covered. One or two courses. *Nephrology staff*

MED 161. Neurology. On this rotation, students learn about the presentation, evaluation, and management of patients with neurologic problems. The student develops an understanding of specialized history and physical techniques and diagnostic procedures, including electroencephalography, brain scan studies, pneumoencephalography, and central nervous system radiologic studies. Students also learn to relate supportively to patients whose symptoms may be frightening and/or have a serious prognosis. One or two courses. *Neurology staff*

MED 162. Rheumatology. This course provides the student with an indepth exposure to rheumatologic disease. Students gain insight into the psychosocial adjustments necessitated by chronic, potentially disabling disease. Students also gain familiarity with diagnostic procedures, therapeutic regimens, and learn how to do a meticulous and thorough joint examination. One or two courses. *Rheumatic and genetic diseases staff*

MED 163. Dermatology. During this rotation students gain familiarity with major classes of dermatologic diseases, ranging from acute self-limited problems to malignant conditions. Sensitivity to the negative effects of cosmetic disfigurement is stressed. Students gain experience with common diagnostic procedures and courses of treatment. One or two courses. *Tindall and dermatology staff*

MED 165. Clinical Infectious Disease. During this four-week rotation, the student learns to approach patients presenting with infectious diseases, to gather a data base from them, and to understand the manifestations of the illnesses and the rationale for therapy. One course. *Staff*

MED 191. Independent Study. This course is intended to allow students with particular interests in an area of internal medicine to structure a need-specific learning experience. Independent studies are arranged with the program staff and appropriate clinical faculty. One or two courses. *Staff*

MICROBIOLOGY

MIC 101. Introductory Microbiology. An introduction to diagnostic microbiology covering such topics as microbial morphology, staining characteristics, growth requirements, diagnostic tests, and antibiotic susceptibility testing. The clinical aspects of such subjects as pyogenic cocci, gram negative sepsis and nosocomial infection, meningitis, venereal disease, enteric infection, anaerobic pathogens, tuberculosis, mycotic diseases, viral infections, and the use of antibiotics are also included. One-half course. *Osterhout*

OBSTETRICS AND GYNECOLOGY

OBG 150. Obstetrics/Gynecology. During this rotation students learn about the health, needs, and concerns of women. Students learn about pregnancy, including prenatal care and management of labor and delivery. The student is expected to be fully familiar with the normal course of pregnancy and with common complications in order to provide educated and sympathetic support for the prospective mother. Students will also gain experience with common gynecologic concerns, including cancer detection, abnormal menstruation and bleeding, infections, and sexual dysfunction. Familiarity with the effectiveness, indications, and contraindications of various forms of contraception is a further objective. One or two courses. *Staff*

OPHTHALMOLOGY

OPH 150. Ophthalmology. This is a four-or eight-week rotation reviewing the major ophthalmologic disease. Through lectures, teaching rounds, and learning special history and physical examination techniques, the student develops an



expertise in determining visual fields, visual acuity, and oculotonometry. The principles of refraction and the many medical and surgical therapeutic regimens available for treating ophthalmologic disorders are included. The student is also required to participate in the routine care of ophthalmologic inpatients and outpatients. One or two courses. *Staff*

PATHOLOGY

PTH 102. Histologic Technique and Interpretation. The student is presented a wide background in tissue and cell morphology and physiology. Emphasis is placed on cellular and subcellular structures which help develop tissue types. A synopsis of current concepts of ultrastructure is related to those of light microscopy. Students learn to evaluate and interpret, under light microscopy, those features which distinguish one tissue from another. The interrelationships between cytology, histology, and organology is stressed. One course. *Broda and Mazzeo*

PTH 107. Human Pathology. The general categories of disease processes will be presented through specific diseases of organ systems. Diseases will be selected for presentation because they epitomize individual etiologic categories, and/or because they occur so commonly in the general patient population that it is important for the student to understand how the abnormal processes are translated into clinical events. One course. *Broda and Mazzeo*

PTH 110-111. Systemic Pathology. Disease processes are studied via methods and techniques utilized in organ system dissection as they pertain to autopsy pathology specimens. Clinicopathologic correlation is stressed utilizing gross and microscopic examples of disease processes, case studies, lectures, and demonstrations. One course. Prerequisites: PTH 102, 107, 200. *Staff*

PTH 115. Clinical Diagnostic Procedures. Students develop skills for performing routine hematologic, urinary, and microbiological procedures suitable for emergency or office/clinic practice. Lectures and discussions are concerned with clinical interpretation and appropriate applications of laboratory data and physiologic derangements which frequently produce abnormal laboratory values. Basic principles of electrocardiography are presented also. A \$50 laboratory fee is required. One course. *Widmann, Schmidt, and Long*

PTH 160. Autopsy Technology. During this eight week on-the-job training period, students are introduced to autopsy dissection techniques and general anatomic pathology protocol. These include evisceration, organ block dissection, tissue preparation for histology, microscopic evaluation, and final protocol completion. Prerequisites: PTH 102, 107, 164. One and one-half course. *Broda and Mazzeo*

PTH 161. Medical Photographic Technology. This course offers the student, via lecture and practical assignments, basic photographic theory and principles including, but not limited to, camera handling techniques, composition, exposure determination, and lighting with electronic flash. The student will be given the opportunity to become proficient in the photography of specimens both in situ and in display, and also in photomicrography. The emphasis in this course shall be on practical assignments. One course. *Mitchell and staff*

PTH 162. Laboratory Management and the Computer. This course is offered in response to the increasing role of the pathologists' assistant in laboratory supervision. Students will be exposed to various aspects of laboratory organization and administration including personnel supervision, budgeting, accounting, and quality control. In addition, students will be introduced to the theory, concept, and practice of data processing as it relates to the anatomic pathology laboratory. The development of a basic vocabulary and the understand-

ing of data processing terms and concepts will be stressed. One course. *Broda and staff*

PTH 164. Clinical Diagnostic Methods. The course is designed to instruct the student in technical and clinical laboratory procedures which are utilized in the diagnosis of disease. Emphasis is placed upon selection and interpretation, rather than the performance of the various procedures. One course. *Staff*

PTH 165-166. Surgical Pathology. During this two-semester course, students are instructed in gross pathology as it pertains to surgical specimens. Gross and microscopic findings are correlated with clinical observations while the student learns the procedural handling of selected specimens. The program of study will consist of lectures, demonstrations, and laboratory work. Two courses. Prerequisites: PTH 107, 110, 200. *Vollmer and staff*

PTH 167. Autopsy Practicum. The course is designed as a practical rotation on the autopsy service, the student participating in necropsy dissections with the resident staff. Emphasis is placed on student participation in both the technical and academic aspects of the autopsy. Also required are attendance and participation in all departmental conferences concerning gross autopsy pathology. One and one-half courses. Prerequisites: PTH 107, 160, 200. *Adams and Lewis*

PTH 177. Neonatal and Pediatric Pathology. This course is designed to teach the student how to perform routine and special autopsy and surgical pathology techniques necessary to delineate pathologic processes in the neonatal and pediatric age group. This will be accomplished by lectures, autopsy dissection, and protocol completion on selected pediatric autopsies, and participation in departmental pediatric autopsy conferences. Prerequisites: PTH 160, 167, 200. Half course. *Bradford and staff*

PTH 183. Special Autopsy Techniques and Procedures. The course is designed to teach the special technical skills used in modified necropsy procedures (i.e., en bloc cervical spine removal, postmortem coronary arteriography, en bloc pituitary-sella turcica). Emphasis is placed on the student becoming proficient at techniques which demonstrate or preserve various aspects of gross pathology. The program of study will include seminars, demonstrations, and preparation of museum teaching specimens. One course. Prerequisites: PTH 107, 160, 200. *Broda and Mazzeo*

PTH 191. Independent Study. This course is intended to give students an opportunity to research and/or participate in pathology specialty areas of their interest. Students can pursue individual research projects or arrange laboratory preceptorships under the direction of appropriate faculty and staff. Prerequisites: PTH 107, 110, 200. One or two courses. *Staff*

PTH 196. Student Autopsy Seminar. Students share interesting autopsy and surgical pathology cases encountered in their practical rotations by making lecture-slide presentations to their peers. Emphasis is placed on learning through literature research and experience is provided in giving oral presentations. One-half course. Prerequisites: PTH 165, 167. *Broda and Mazzeo*

PTH 200. Pathology. Fundamentals of pathology are presented by correlating gross and microscopic material to illustrate the structural changes in disease. Lectures consisting of broad concepts of disease processes are presented by senior faculty and conferences with small groups of students are held under the guidance of staff members. Etiology and pathogenesis of disease as well as the experimental approach are emphasized for the purpose of correlation with clinical disease. In addition to group work, conferences are scheduled to discuss problems derived from autopsies. Students are required to collaborate in postmortem studies and

present cases in clinical-pathologic conferences under the direction of the staff. Two courses. Prerequisites: ANA 101; PTH 102, 107. *Staff*

Elective Courses

Qualified senior students, in the Pathologists' Assistant Program, who have successfully completed PTH 107 and PTH 200 may choose elective classes in specialized areas of pathology with the approval of the faculty member responsible for the course. In addition, selected courses from the Medical Technology Program may be elected subject to faculty approval.

PEDIATRICS

PED 150. Community Pediatrics. The major objective of this rotation is to provide students with an overview of community pediatric practice. Students will gain familiarity with normal growth and development and developmental evaluation, pediatric preventive medicine, and evaluation and management of common childhood illnesses. Special emphasis is placed on communication skills and relating sensitively to both children and parents. Each student will spend time in the newborn nursery and be involved with hospitalized patients. One or two courses. *Rourke, Herman-Giddens, and staff*

PED 152. Intensive Care. A four-week rotation that acquaints the student with the acute and intensive care required for patients who have undergone major and complex surgical procedures, suffered massive and severe trauma involving multiple organ systems, or experienced sudden cardiorespiratory collapse or other life-threatening medical crises. Emphasis is placed on ventilatory assistance, cardiopulmonary resuscitation, fluid and electrolyte replacement, and acid-base balance under resident physician supervision. Prerequisite: PED 150. One course. *Staff*

PED 153. Pediatric Chest and Allergy. During this four-or eight-week rotation the student is taught to obtain a complete history and physical examination with emphasis on the allergy data base and the structure of the family. Students gain understanding of the impact of chronic illness on children and their families. They gain an understanding of home care programs and are able to alter them to fit a family's ability and resources. The student carries out appropriate diagnostic procedures and assesses the results for children with pulmonary disease. One or two courses. *Staff*

PED 154. Full-Term Nursery. During this four-or eight-week rotation the student learns to collect the maternal history accurately and completely; to recognize those maternal conditions imposing risks on the full-term infant; to collect samples for newborn screening laboratory exams; to examine a full-term infant and distinguish those who are abnormal from those who are normal; and to give cogent instructions to mothers and fathers regarding home care of the infant. One or two courses. *Staff*

PED 191. Independent Study. This rotation allows students with a particular interest in an area of pediatrics to construct their own need-specific learning experience. PED 191 is arranged with the program staff and appropriate clinical faculty. One or two courses. *Staff*

RADIOLOGY

RAD 101. Introductory Radiology. A review of roentgen anatomy and an introduction to the uses of radiology in the care of patients. Students learn the basic clinical concepts and develop skills in performing basic scanning and routine radiographs. One-half course. *Abner and staff*

SURGERY

SUR 101. Fundamentals of Surgery. This course has been recently redesigned to better focus on the needs of P.A.'s in primary care settings. While including the basic concepts needed for P.A.'s to function well in a major surgical setting, the course emphasis is on building expertise in the areas of minor surgical techniques, emergency procedures, and the surgically related skills needed in general medicine. Included in the lecture, laboratory, and skill sessions will be a wide variety of topics from anesthesia and asepsis to venipuncture. The students will learn first assisting, suturing, casting, various intubations, and will be certified in Basic CPR. The final eight weeks of the course will emphasize work in the Animal Surgery Laboratory. One course. *Hendrix and staff*

SUR 150. General Surgery. A four or eight-week rotation that exposes the student to a great variety of clinical problems, crossing, at times, many so-called specialty lines. Basic surgical principles, as well as insights into many of the surgical specialties, can be learned on this service. Preoperative diagnostic principles and postoperative management are emphasized. The most attractive feature of the rotation is the great diversity of surgical problems encountered. One or two courses. *Staff*

SUR 151. Surgical Outpatient/ER. During this four-week rotation, students become familiar with the evaluation and management of surgical problems of the ambulatory patient. In the emergency room, students gain experience in the initial evaluation of potential surgical conditions, particularly abdominal pain. Students learn to perform problem specific examinations and have an opportunity to evaluate patients on return visits. One course. *Staff*

SUR 152. Intensive Care. During this experience the student learns to: recognize patients requiring intensive medical care; operate and maintain life-monitoring equipment; understand and evaluate fluid electrolyte replacement and acid-base balance; and administer cardiopulmonary resuscitation and ventilatory assistance. This experience may be gained on the respiratory care unit, medical care unit, intensive care nursery, surgical acute care unit, and in pulmonary function-inhalation therapy. One or two courses. *Staff*

SUR 153. Cardiothoracic Surgery. During this rotation, the student learns to perform a detailed history and physical examination with special emphasis on the cardiothoracic system. With special help from the resident and senior staff and through reading, the student should be able to appreciate special diagnostic procedures such as angiograms, pulmonary function studies, etc. In the operating room, the student will assist and follow the conduct of various open-heart and other major thoracic procedures. The resident, senior staff, and student will participate in the management of complex problems such as various arrhythmias, shock, fluid and electrolyte imbalance. One or two courses. *Cardiothoracic surgery staff*

SUR 155. Surgical Acute Care Unit. During this rotation the student is acquainted with the postoperative care of patients who have undergone surgical procedures or suffered massive and severe trauma involving multiple organ systems. Special emphasis is centered on ventilatory assistance problems, open-heart cases, neurosurgical problems, and massive trauma cases. The variety of the patients and the diversity of the problems that exist on the unit give the student a broad insight into surgical postoperative management. The student should strive for an understanding of the pathophysiology and physiology. One or two courses. *Cardiothoracic division staff*

SUR 156. Otolaryngology. During this rotation students will learn to evaluate problems related to the ear, nose, and throat. Experience will include both ambulatory and hospitalized patients. Students will gain familiarity with various

diagnostic and therapeutic procedures and will have an opportunity to follow patients over a period of time. One or two courses. *Division of Otolaryngology and staff*

SUR 157. Plastic Surgery. During this course students gain familiarity with patients requiring plastic repair including burn patients, and patients with facial anomalies and maxillofacial neoplasms. The course objectives include an understanding of preoperative and postoperative care, recording the initial history and physical examination, and ordering indicated laboratory tests and studies. It is hoped that the student will learn to respond sensitively to the emotional needs of this group of patients. One or two courses. *Division of Plastic Surgery and staff*

SUR 160. Urology. During this rotation, students learn about urologic disease. Students participate in the care of clinic and hospitalized patients with common urologic problems and take part in initial evaluations, diagnostic procedures, surgery, and acute and long-term follow-up care. One or two courses. *Division of Urology*

SUR 161. Neurosurgery. During this eight-week rotation the student is provided with a working understanding of the problems unique in the diagnosis, treatment, and management of the neurosurgical patient. The student may gain experience in the operating room by assisting with the patient, with instrumentation, and with the operative procedures. A working knowledge is gained of diagnostic techniques such as carotid arteriograms, electroencephalograms, ventriculograms, spinal taps, etc. Experience and knowledge in emergency room techniques and management of acute neurosurgical injuries (GSW, blunt head trauma, acute quadriplegia, hemiplegia, etc.) is included. One or two courses. *Division of Neurosurgery*

SUR 162. Orthopaedic Surgery. Students gain familiarity with the evaluation and management of common orthopaedic problems at the primary care level, including soft tissue injuries, fractures, arthritis, and low back pain. Students will learn the mechanism for applying different types of traction, how to apply splints and casts, and how to provide emergency care for acute trauma. One or two courses. *Orthopaedic Division*

SUR 191. Independent Study. This rotation allows students with a particular interest in an area of surgery to construct their own need-specific learning experience. SUR 191 is arranged with the program staff and appropriate clinical faculty. One or two courses. *Surgical staff*

Graduate Degree Programs



The Graduate School of Duke University awards a Master of Health Administration degree to students who complete the program in health administration and a Master of Science degree to students who complete the program in physical therapy. Both health administration and physical therapy are departments in the Graduate School and additional information, including courses of instruction, may be found in the Graduate School bulletin which is available through the Office of Admissions, Graduate School, Duke University, Durham, North Carolina 27706. Graduate programs are also integral parts of Duke University Medical Center.

Health Administration

Professors: James P. Cooney, Jr., Ph.D., *Chairman*; E. Harvey Estes, M.D.; B. Jon Jaeger, Ph.D.; David G. Warren, J.D.

Associate Professors: David J. Falcone, Ph.D.; Wilma A. Minnier, R.N., M.S.; Louis E. Swanson, A.B.; D. Michael Warner, Ph.D.

Assistant Professors: Donald S. Smith, M.H.A.; Robert G. Winfree, M.A.

Associate: Douglas Henderson-James, M.H.A.

Instructor: Robert O. Lunn, M.H.A.

Adjunct Professors: Arnold D. Kaluzny, M.H.A.; Richard J. Stull, C.H.A.; Robert E. Toomey, LL.D.; Edward L. Walls, Jr., Ph.D.

Adjunct Assistant Professors: Debbie Fruend, Ph.D.; Jeff H. Steinert

Lecturers: Robert J. Sullivan, Jr., M.D.; W. Edward Hammond, Ph.D.

The Department of Health Administration offers a five-semester, twenty-month graduate program leading to the Master of Health Administration degree, and participates in joint-degree programs leading to M.D.-M.H.A., J.D.-M.H.A., Ph.D.-M.H.A., and M.H.A.-M.A. combinations.

The basic M.H.A. program prepares individuals for management careers in hospitals, multihospital systems, clinics, prepayment and insurance programs, health maintenance organizations, governmental health agencies and programs, and in other health-related settings.

The curriculum is rigorous, emphasizing quantitative decision making, statistics, operations research, financial management and accounting, public policy, health law, and organizational behavior.

One class of approximately forty is admitted each year, to start in September. Admission is highly competitive, with many applications for each student enrolled. Selection is based on previous academic and professional work, Graduate Record Examination scores, recommendations, and personal interviews conducted on campus. Only applicants who show potential for demanding graduate study and leadership in the health field are selected. For further information write to the Admissions Coordinator, Department of Health Administration, Box 3018, Duke University, Durham, North Carolina 27710.



Financial Aid. A limited number of scholarships are available. All aid is on the basis of demonstrated financial need as described in the section on student aid in the chapter, General Information.

Physical Therapy

Professor: Robert C. Bartlett, M.A., *Chairman*

Associate Professors: Eleanor F. Branch, Ph.D., *Director of Graduate Studies*; Elia E. Villanueva, M.A.

Assistant Professors: Grace C. Horton, B.S.; Pamela W. Duncan, M.A.C.T.; Steven G. Nelson, Ph.D.

Assistant Clinical Professors: Elaine M. Eckel, M.A.; Mary Ellen Riordan, M.S.

Associate: Mary M. Huse, Ph.D.

Clinical Associates: James Bittinger, B.A.; Carl J. Smith, B.S.

Adjunct Assistant Professor: Marcia Roses, M.A.

Adjunct Associates: Robert Branberg, B.S.; Susanne de Ferranti, M.S.; Lois Ann Hodges, M.A.; Sonya Laubscher, M.A.; Rae M. Litaker, B.S.; Martha Propst, M.A.; Kathleen R. Riley, B.S.; Paul Roberts, B.S.; Charline Rotha, M.A.; Ronald W. Sweitzer, M.S.; Elizabeth T. Warren, B.S.; Wadsworth D. Roy III, B.S.; Virginia Williams, M.A.; Judy A. White, B.S.

The Duke University Graduate Program in Physical Therapy, leading to the Master of Science degree, is a program for entry into the profession of physical therapy. The program is designed to provide a comprehensive foundation in the art and science of physical therapy, preparing individuals for clinical practice.

Experiences in the areas of administration and research are also provided. Students may arrange their curricula to allow for the development of teaching skills.

Program of Study. The fully accredited program of study requires fifty-two credit units of graduate course work, research, clinical affiliation, or other equivalent academic experience, and is twenty-two consecutive months in length. Forty-one units of work must be in physical therapy, five units in designated courses in anatomy, and the remaining six units in electives in related fields. A research project is required which provides the opportunity to pursue a particular aspect of physical therapy in depth.

Curriculum. Students must complete the following:

First Year

<i>Fall semester</i>		<i>Credit units</i>
ANA 305	Gross Anatomy	3
ANA 309	Neuroanatomy	2
PT 317	Kinesiology	2
PT 313	Physical Agents	2
PT 319	Introduction to Evaluation and Patient Care	2
PT 334	Introductory Pathology	2
PT 301	Introduction to Scientific Inquiry	2
<i>Spring semester</i>		
PT 318	Arthrology and Pathokinesiology	3
PT 314	Physical Agents	2
PT 320	Evaluation and Therapeutic Procedures I	4
PT 336	Medical Sciences	2
PT 342	Directed Clinical Experience in PT I	1
PT 324	Orthotics and Prosthetics	2
PT 302	Research	1
<i>Summer terms</i>		
PT 321	Evaluation and Therapeutic Procedures II	2
PT 343	Directed Clinical Experience in PT II	2

Second Year

<i>Fall semester</i>		
	Electives	6
PT 332	Administration of Physical Therapy Services	3
PT 303	Research	3
PT 322	Evaluation and Therapeutic Procedures III	3
<i>Spring semester</i>		
PT 344	Directed Clinical Experience in PT III	3

Detailed course descriptions may be found in the *Bulletin of Duke University Graduate School*.

Prerequisites for Admission. Requirements for admission to the physical therapy program include a baccalaureate degree, completion of prerequisite courses, Graduate Record Examination (GRE) Aptitude Test scores, the filing of an application, and, upon invitation, a personal interview. In order to meet the closing date of 1 February for the initial receipt of an application, it is strongly recommended that the GRE be taken no later than the October test date. All supportive documents must be received by the Graduate School Office of Admissions by 1 March and only completed applications are forwarded to the Graduate Program in Physical Therapy. Only students for full-time study are accepted. State of residency does not influence admission policies or tuition costs.

Minimum Prerequisites

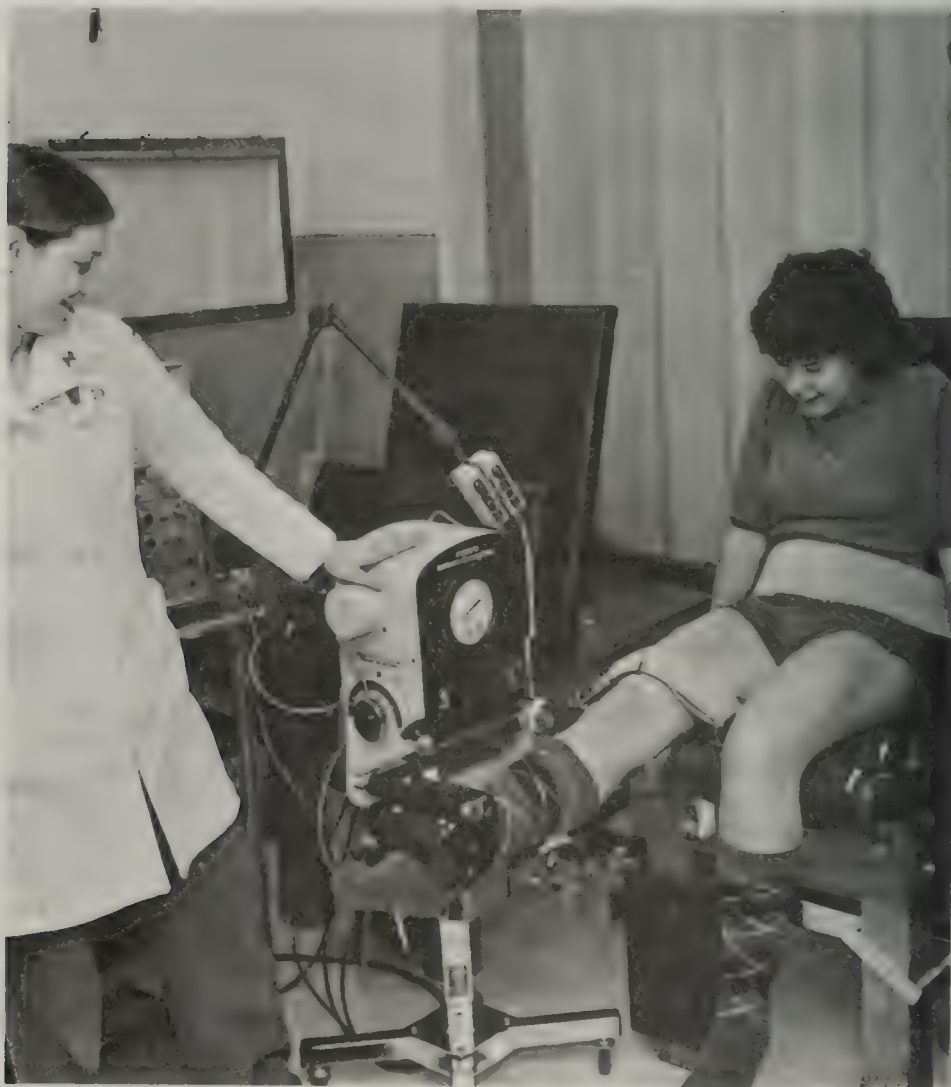
1. thirty semester hours (forty five quarter hours) are required in the natural sciences, including:

- a. eight semester hours (twelve quarter hours) in the biological sciences. A course in mammalian or human physiology and a course in vertebrate or human anatomy are required.
- b. eight semester hours (twelve quarter hours) of chemistry.
- c. three semester hours (four and one-half quarter hours) of physics, which include principles of heat, light, electricity, and mechanics.

In order to fulfill the thirty semester hour (forty-five quarter hours) requirement in the natural sciences, the following courses are strongly recommended: biochemistry, exercise physiology, embryology, and histology/microanatomy.

2. Fifteen semester hours (twenty-three quarter hours) are required in the social sciences and the humanities, of which six semester hours (nine quarter hours) must be in psychology.

In order to fulfill the fifteen semester hour (twenty-three quarter hours) requirement in the social sciences and the humanities, the following courses are strongly recommended: abnormal psychology, child psychology, statistics, and scientific and technical writing.



Applicants are required to meet all prerequisite course work with a grade of C or better.

Application Procedures. Applications include the following:

1. A completed Graduate School application form, including a nonrefundable fee of \$30, which must be submitted by 1 February of the year for which admission is requested.
2. The following supportive documents, which must be received by 1 March:
 - a. two official transcripts from each institution of higher learning attended;
 - b. results from the Graduate Record Examination Aptitude Test; and
 - c. three letters of recommendation, two of which should be from individuals in the applicant's undergraduate field of study; the third recommendation should be from a physical therapist or a related health professional.

Requests for applications and further information should be directed to the Director of Graduate Studies, Department of Physical Therapy, Box 3965, Duke University Medical Center, Durham, North Carolina 27710.

Tuition and Expenses. The 1982-83 academic year tuition for students enrolled in the Graduate Program in Physical Therapy is approximately \$196 per credit unit. Estimated cost for the two-year program is approximately \$24,200, including tuition and living expenses.

Financial Aid. All students are encouraged individually to seek sources of financial assistance. Loan money is available through the Duke University School of Medicine. Financial aid applications are mailed to students after acceptance into the program. Please refer to the section on student aid in the chapter, General Information.

Certificate Programs



Duke University Medical Center has responded to the increased need for qualified individuals at all levels in the health care system by developing educational programs designed to equip people for a variety of positions. These programs, which vary in admission requirements and length of training, offer students both clinical and didactic experience. Graduates of these programs are awarded certificates.

Clinical Psychology Internship

The Division of Medical Psychology, Department of Psychiatry, Duke University Medical Center, offers internship training in clinical psychology to students who are currently enrolled in APA-approved Ph.D. programs in clinical psychology and who have already completed three years of graduate study. The program, approved by the American Psychological Association, provides experience in many contexts with a wide diversity of patients. Internship training provides experience in the traditional activities of clinical psychologists: assessment, consultation, psychotherapy, and research. Those successfully completing the requirements for internship will be awarded a Duke University Medical Center certificate. Requests for additional information and correspondence concerning admission to the program should be directed to the Director, Clinical Psychology Internship Program, Box 3895, Duke University Medical Center, Durham, North Carolina 27710.

Cytotechnology

Professor: William W. Johnston, M.D., *Director, Cytotechnology Program*

Professor: Edward H. Bossen, M.D.

Assistant Professor: Sandra H. Bigner, M.D.

Associate: Patricia R. Ashton, A.B., CT(ASCP), *Program Director*

Teaching Staff: Rosiland M. Wallace, A.B., CT(ASCP), *Teaching Supervisor*; Susan P. Moore, B.A., CT(ASCP), *Instructor*

Progress in the early detection of cancer by the microscopic examination of smears of cell samplings, especially from the female genital tract, has resulted in the specialty of cytotechnology. The cytotechnologist deals with the technical and diagnostic aspects of exfoliative cytology. Graduates of the program are awarded a certificate and are eligible to take the certifying examination given by the Board of Registry of the American Society of Clinical Pathologists.

Program of Study. The twelve-month program beginning in early September consists of two parts: the first half is primarily devoted to theoretical and practical

exercises in the techniques of exfoliative cytology and interpretation of the clinical material; the last half is composed of laboratory training in all aspects of exfoliative cytology.

Prerequisites for Admission. All applicants shall have completed two years (sixty semester-hours or ninety quarter-hours) of academic education in an accredited college or university before being accepted into this school. This preparatory work must include a minimum of fourteen semester-hours or twenty-one quarter-hours of biology. These may include courses in general biology, bacteriology, parasitology, physiology, anatomy, histology, embryology, zoology, and genetics. An applicant presenting a baccalaureate degree from an accredited college or university must have completed the biology requirements before admission. Biology credits earned more than seven years prior to application must be updated by taking three additional semester credits related to cell biology within a period of time not to exceed twelve months prior to admission. Priority will be given to individuals with a Bachelor of Science or Bachelor of Arts degree or to ASCP registered medical technologists.

Application Procedures. Applications must be submitted by 1 April of the year for which admission is requested and must contain the following:

1. a completed application form including a \$30 nonrefundable fee;
2. official transcripts from all colleges or professional schools attended;
3. one copy of all transcripts must be submitted by the applicant to the National Accrediting Agency for Clinical Laboratory Sciences for approval;
4. two letters of recommendation from individuals acquainted with the applicant's educational or professional experience; and
5. a personal interview prior to final acceptance.

All applicants will be notified by 1 May regarding admission to the program. Requests for further information and application forms should be directed to the Program Director, Cytotechnology Program, Department of Pathology, Duke University Medical Center, Durham, North Carolina 27710.

Laboratory Fees. On notification of acceptance, students are required to pay a nonrefundable registration fee of \$25. This fee will be applied towards the year's course fee of \$1,250.

Financial Aid. See the section on student aid in the chapter, "General Information."

Hospital and Clinical Pharmacy Residency

Director of Pharmacy Services: Milton W. Skolaut, B.S.

Associate Director of Pharmacy Services: James C. McAllister, M.S.

Assistant Director for Clinical Services: Christine Rudd, M.S.

Residency Program. The Hospital and Clinical Pharmacy Residency is a twelve-month postbaccalaureate program conducted by the Department of Pharmacy at the Duke University Medical Center. The residency is designed to give the graduate pharmacist extensive training in clinical pharmacy practice and basic hospital pharmacy services including unit-dose drug distribution, large and small parenteral admixture service, total parenteral nutrition program, controlled drug systems, and hospital pharmacy administration.

Admission Standards. Applicants must be graduates of accredited schools of pharmacy and must have a B.S., M.S., or Pharm.D. degree. Resident candidates must have demonstrated good academic and leadership capabilities and be eligible for licensure in North Carolina. It is preferable that the applicant have previous hospital pharmacy experience.

Application Procedures. Applications must be submitted by 28 February of the year for which admission is requested and include the following:

1. ASHP resident matching program registration by the preceding 15 December;
2. personal interview, to be arranged by appointment;
3. official transcript from pharmacy school and other professional programs attended;
4. completed Allied Health Division application forms; and
5. letters of recommendation from at least three persons who have known the applicant professionally (i.e., pharmacy school professor, hospital pharmacist, clinical pharmacist).

Applicants will be notified by 30 March regarding admission to the program.

Stipend. A stipend of \$12,750 is granted for the twelve-month residency.

Travel Allowance. A travel allowance of \$350 is granted for the twelve-month residency.

Medical Technology

Chairman, Department of Pathology: Robert B. Jennings, M.D., *Professor of Pathology*
Director of Hospital Laboratories: Kenneth A. Schneider, M.D., *Professor of Pathology*
Medical Director, Medical Technology Program: Frances K. Widmann, M.D., *Associate Professor of Pathology*

Program Director, Medical Technology Program: Margaret C. Schmidt, MT(ASCP), SH, M.A.T.,
Associate in Pathology

Education Coordinators, Medical Technology Program: Kenni B. Beam, MT(ASCP)M.S.; Cynthia L. Wells, MT(ASCP), M.Ed.

Program Instructors, Medical Technology Program: Iris W. Long, MT(ASCP),B.S.; Michael L. Bishop, MT(ASCP), M.S.

Associate Professors: Dolph Klein, Ph.D.; Peter Zwadyk, Ph.D.

Assistant Professors: William H. Briner, B.S.; Jane T. Gaede, M.D.; Robert L. Habig, Ph.D.; Emily Reisner, Ph.D.; Frank Sedor, Ph.D.; John Toffaletti, Ph.D.

Associates: John A. Bittikofer, Ph.D.; Philip A. McHale, Ph.D.

Instructors: Enrique Estevez, Ph.D.; Ardell M. Proctor, MT(ASCP)M.S.; Robert F. Wildermann, C(ASCP)M.S.

Clinical Teaching Staff: Barbara Benton, M.T.; Deborah Coombs-Jones, MT(ASCP)B.S.; Betty R. Crews, MT(ASCP); Jean T. Crute, MT(ASCP); Mary Ann Dotson, MT(ASCP)B.S.; June Gregonis, MT(ASCP)B.S.; Cathy Holleman, MT(ASCP)B.S.; Ellen Lundberg, MT(ASCP)B.S.; Miriam Marshall, MT; Ruth Parrish, MT(ASCP)B.S.; David Seibert, M.T.; Patricia E. Thurrell, MT(ASCP)SBB,B.S., M.Ed.; Dale Tompkins, MT(ASCP)B.S.; Shirley Violand, MT(ASCP)B.S.; Irene A. Wyatt, MT(ASCP)

Program of Study. The educational program begins 1 June and consists of fifty-six instructional weeks plus three weeks of vacation. The first twelve weeks consist of a core curriculum of clinical pathology courses offered to all students at the same time. After successful completion of the core curriculum, the student is eligible to begin forty weeks of clinical rotations in the Medical Center laboratories. In the spring, a four-week term is devoted to a course of study in educational techniques, management and supervision, computers in laboratory medicine, and other clinical laboratory sciences. Lectures, student laboratory experience, and clinical laboratory instruction are presented by a faculty and staff of physicians, chemists, microbiologists, and medical technologists.

Graduates of this CAHEA-approved program are eligible for national certification as a medical technologist. Career opportunities in hospital laboratories, research, public health facilities, and educational institutions are widely available.

Prerequisites for Admission. Applicants to the program must possess the following academic prerequisites:

1. Possession of a baccalaureate degree, OR the completion of at least three years of study in an accredited college or university which totals ninety

semester hours (120 quarter hours) with grades of C or better, and the written guarantee that a baccalaureate degree will be conferred by a university after successful completion of this program.

2. Sixteen semester hours (twenty-four quarter hours) of chemistry (including at least one course in organic chemistry). Quantitative analysis may be accepted in lieu of the second semester of organic chemistry.
3. Sixteen semester hours (twenty-four quarter hours) of biology (including one course in microbiology).
4. One course of college level mathematics.

Application Procedures. Applications should be submitted by 1 February of the year for which admission is requested and must contain the following:

1. The completed Duke University Medical Center Allied Health application form, including a nonrefundable processing fee;
2. Official transcript(s) from all colleges and universities attended;
3. Three letters of recommendation, one from a professor of biological sciences, one from a professor of chemistry, and one from a college adviser;
4. A personal interview with members of the Admissions Committee, if requested, following the receipt of the application and other information;
5. A handwritten statement of interest in medical technology;
6. A NAACLS transcript evaluation, if requested.

Applicants will be notified no later than 1 May regarding admission to the program. Requests for further information and application forms should be directed to the Education Coordinator for Admissions, Medical Technology Program, Box 3712, Department of Pathology, Duke University Medical Center, Durham, North Carolina 27710.

Fees and Expenses. Tuition for the program is \$2,200.* A minimal lab fee is charged for the core curriculum. The student is responsible for housing, board, uniforms, books, and health fee and insurance.

A nonrefundable deposit of \$175 is required of all accepted candidates to hold their place in the class. This deposit applies toward the tuition fee. The remaining tuition and fee balance is billed in two increments; at matriculation and in January (mid-year).

Financial Aid. Please refer to the section on student aid in the chapter, "General Information." All candidates are urged to seek independent sources of financial assistance.

Courses of Instruction. Students must complete the following courses:

Core Curriculum*

Course Title		Lecture/Lab Clock Hours
MT 107	Human Pathology	24/00
MT 112	Medical Chemistry/Instrumentation	60/60
MT 120	Immunohematology	27/27
MT 121	Blood and Body Fluids	36/48
MT 123	Principles of Immunology	12/00
MT 132	Medical Microbiology/Serology	37/24
PHS 102	Basic Human Physiology	24/00

* Course work in the core curriculum must be successfully completed to gain access to clinical rotation courses which follow

Clinical Rotations

Course Title		Total Rotational Weeks
MT 151	Clinical Microbiology/Serology	10

*Subject to change without prior notice.

MT 153	Clinical Immunology-Immunohematology	10
MT 155	Clinical Blood and Body Fluids	10
MT 157	Clinical Chemistry	10

Assigned clinical rotations will total 1,600 clock hours.

<i>Spring Term</i>		<i>Lecture/Lab Clock Hours</i>
MT 122	Parasitology	12/24
MT 124	Educational Techniques for the Health Professional and Seminar	20/00
MT 126	Laboratory Supervision and Management	24/00
MT 110	Medical Applications of Computers	12/00

Nuclear Medicine Technology

Associate Professor and Medical Director: Joseph B. Workman, M.D.

Associate and Educational Director: Elizabeth C. Blackburn, M.Ed., NMT(ARRT), CNMT

Professor: R. E. Coleman, M.D.

Associate Professors: W. H. Briner, B.S., Pharm.; W. D. Currie, Ph.D.; C. Craig Harris, M.S.; R. H. Wilkinson, Jr., M.D.

Associate: Conrad Knight, B.S.

Technical Administrator: E. D. Flowers, R.T., NMT(ARRT, ASCP)

Chief Technologist for Nuclear Medicine: F. R. Schuler, B.S., NMT(ARRT)

Clinical Coordinator: Sharon M. Hamblen, R.T., NMT(ARRT), CNMT

Instructors: D. B. Jorgenson, B.S.; Iris Long, MT(ASCP)S.C.; Neil Petry, R. Ph., M.S.; C. L. Wells, MT(ASCAP), M.Ed.

Additional instruction is provided by the nuclear medicine technical staff of the Duke and V.A. Medical Centers, and radiology residents.

In the fall of 1967 the Division of Nuclear Medicine in the Department of Radiology of the Duke Medical Center began a full year program in nuclear medicine technology. This program is accredited by the American Medical Association's Committee on Allied Health Education and Accreditation (CAHEA). Upon completion of studies the student is awarded a certificate and becomes eligible to take the ARRT, ASCP, and NMTCB registry examinations in nuclear medicine technology.

Program of Study. The program consists of twelve months of instruction and clinical training. The first three months are spent in courses involving both didactic and laboratory instruction. The following nine months are spent in an internship. The student rotates through clinical areas in the Duke University and the Durham V.A. Medical Centers.

Prerequisites for Admission. Applicants must be registered or registry-eligible radiologic technologists, medical technologists, or have an Associate of Arts/Science or Bachelor of Arts/Science degree from an accredited college. Due to the pace and scope of the subject matter presented, it is strongly recommended that students review the following areas prior to entry into the program: mathematics (arithmetic and algebra), general biology, chemistry, and physics.

Application Procedures. Applications must be submitted by 1 March of the year for which admission is requested and must contain the following:

1. two completed application forms including a \$30 nonrefundable application fee, and recent photographs;
2. official transcripts from all high schools, colleges, or professional schools attended;
3. results from any standardized aptitude tests, such as PSAT, SAT, and ACT taken by the applicant;
4. three letters of recommendation from business or professional men and women, not related to the applicant, but who are acquainted with the applicant's educational or professional experiences; and

5. a personal interview is desirable, but not required.

All applicants will be notified by 1 April regarding admission to the program. Requests for further information and application forms should be directed to the Program Director for Nuclear Medicine Technology, Box 3108, Duke University Medical Center, Durham, North Carolina 27710.

Registration Fees and Expenses. The course fee for this program is \$650. Accepted candidates must pay a nonrefundable deposit of \$100 to hold their place in the class. The balance of \$550 is due and payable at matriculation. Students enrolled in this program do not pay full Duke tuition. Students must furnish their own uniforms and laboratory coats. In addition, books and supplies cost approximately \$100.

Financial Aid. Please refer to the section on student aid in the chapter, General Information.

Courses of Instruction. Students must complete the following courses:

<i>Title</i>	<i>Hours</i>
Administrative/Education Techniques	40
Anatomy/Physiology/Pathology	55
Chemistry and Radiopharmacy	65
Clinical Techniques	100
Instrumentation/Computer Techniques	75
Math Review	30
Nuclear and Radiation Physics	25
Orientation	20
Radiation Biology	20
Radiation Protection	20
Total	450

In addition, assigned experience in clinical procedures will total 1,400 hours.

Pastoral Care and Counseling

Assistant Professor: John C. Detwiler, B.D., Th.M., *Director of Clinical Pastoral Education Programs*
Assistant Professor: P. Wesley Aitken, B.D., Th.M.



Professor: Richard A. Goodling, B.D., Ph.D.
Instructor: Peter G. Keese, S.T.B., Th.M.
Assistant Professor: Paul A. Mickey, B.D., Ph.D.

A graduate program in pastoral care and counseling is available to clergy and sympathetic laity of all religious groups. There are four program options: a single unit of clinical pastoral education, an internship, a residency, and a fellowship. All are designed to train ordained individuals who desire to specialize in pastoral care and counseling, enhance their skills as parish clergy, or to broaden their understanding. Those who enroll in the program will be required to serve as chaplains or as pastoral counselors in the Medical Center or in the community of Durham. All program options are approved by the Association for Clinical Pastoral Education, Inc.

Programs of Study. The following programs in basic, advanced, and supervisory clinical pastoral education are offered at the Duke University Medical Center:
Single Unit of Basic CPE—The single unit is offered during the summer months, beginning in June and lasting ten to twelve weeks (dates to be specified). It is also offered on a part-time basis concurrently with the fall and spring semesters of Duke Divinity School (the fall/spring extended quarter). Admission to the single unit of basic CPE is based on the following:

1. submission of written application materials;
2. admission interview by a qualified examiner;
3. acceptance by the center.

*Clinical Internship (Basic CPE)**—The internship usually begins in June and lasts for twelve months (dates to be specified). This program grants four units of CPE credit with the ACPE. Admission is based on the following:

1. graduation from college—equivalencies may be considered;
2. evidence of serious religious and theological interest;
3. completion and supervisor's evaluation of one certified unit of CPE (basic unit) in an accredited center usually strengthens the application;
4. submission of written application materials;
5. a personal interview with the supervisory and teaching staff;
6. acceptance by the center.

*Clinical Residency (Advanced CPE)**—The residency usually begins in September and lasts twelve months. The specialization of the advanced year may be in a number of clinical settings including pastoral counseling and hospital chaplaincy. Four units of CPE credit are granted with the ACPE. Admission is based on the following:

1. evidence of successful completion of the program objectives of basic CPE, or its equivalent. Usually this means a minimum of two quarters of basic CPE;
2. submission of written application materials;
3. a personal interview with the supervisory and teaching staff;
4. acceptance by the center.

*A Fellowship in Supervisory CPE**—Supervisory CPE provides a learning opportunity for the qualified person, with demonstrated personal, professional, and clinical competence who desires to become a certified supervisor of CPE. Admission to this program is based on his/her potential to assist others in the clinical methods of learning, together with a capacity to acquire techniques and theories of supervision. Admission to supervisory CPE is based on:

1. ecclesiastical endorsement;
2. a period of time which allows the candidate to demonstrate his/her ability to function pastorally, usually not less than three years;

*Students who are taking more than two courses (not including CPE) in the Divinity School for academic credit will receive only three certified units of CPE—one in the summer, one in the fall, and one in the spring. All others receive four units of certified CPE. Beginning and ending dates vary according to the needs of the trainee and the program.

3. completion of program objectives of basic and advanced CPE, usually at least four units of CPE;
4. consultation by the appropriate committee in the region with respect to his/her readiness to pursue supervisory training;
5. submission of written application materials;
6. a personal interview with the supervisory and teaching staff;
7. acceptance by the center.

Beginning and ending dates vary according to the needs of the trainee and the program.

Requests for application and further information about any of the programs should be directed to the Director, Pastoral Care and Counseling Programs, Box 3112, Duke University Medical Center, Durham, North Carolina 27710.

Registration Fees and Expenses. A fee is usually charged for the screening (admission) interview. In our region of the ACPE, Mid-Atlantic, the fee is \$30. The fee varies from place to place throughout the nation. All students who take clinical pastoral education at Duke Medical Center must be accepted and enrolled through either the Division of Allied Health or Duke Divinity School.

Students who wish to receive academic credit shown on a transcript should apply for admission to Duke Divinity School as a degree candidate (M. Div. or Th.M.) or as a special student. They will then enroll for CPE through Duke Divinity School and will pay fees to the Divinity School according to Divinity School charges. Residents in pastoral counseling are required to be enrolled through the Divinity School.

All other students must be enrolled through the Division of Allied Health, Duke Medical Center, whether for single units or year-long programs. For 1980-81 fees are \$225 per unit.

Financial Aid. A limited number of training stipends are available for the internship, residency, and fellowship. No stipends are available for the single unit of training.

Physician Assistant

A limited number of students who are *not* eligible for admission to the Bachelor of Health Science degree program, but who possess *outstanding* credentials in a health care field, are accepted into the certificate program. The two-year program, including tuition, is the same as that described previously. Students are issued a Duke University undergraduate identification card and are granted the same privileges as the physician assistant students in the Bachelor of Health Science degree program. Prerequisites for admission differ in that applicants not planning to receive the degree need not complete sixty semester hours of college level courses. Also, these applicants must submit their high school transcript(s); transcripts from diploma nursing or other health professional schools and military training programs; must complete by 15 January a college level course in both general chemistry and general biology; and must complete, also by 15 January, *two* years of health care experience.

Radiologic Technology

Professor: Charles E. Putman, M.D., *Chairman, Department of Radiology*

Associate Professor and Medical Director: Donald R. Kirks, M.D.

Educational Coordinator: Marie W. Stone, R.T. (R), ARRT

Clinical Instructor: Charles W. Phaneuf, B.A., R.T.

RADIOLOGIC TECHNOLOGY CERTIFICATE PROGRAM

Students are admitted each July for the two-year radiologic technology certificate program. Each student receives both academic and clinical training in all

aspects of the field. After successful completion of the program, the student is eligible to take the national board examination sponsored by the American Registry of Radiologic Technologists.

Program of Study. The course of study follows the approved syllabus of the American College of Radiology and the American Society of Radiologic Technologists. The number of hours devoted to most subjects generally exceeds the basic minimum requirements.

Class lectures are scheduled on a full-time basis for July and August of the entering year. During the succeeding months of the program, classes are held two days per week with the exception of the summer months. The remainder of the program involves a series of clinical rotations in all aspects of technological activity, under the supervision of full-time registered radiologic technologists, senior staff radiologists, and resident radiologists. Periodic examinations are given to evaluate progress. Full-time attendance is mandatory in both classroom and practical work. Beginning second semester, periodic rotations on Saturday and Sunday and two selected week nights will be required.

Prerequisites for Admission. All applicants must have a diploma from an accredited high school or its equivalent.

Application Procedures. The following are necessary to complete application procedures:

1. a completed application form, including a recent photograph and a nonrefundable fee of \$30;
2. official transcripts from all high schools, colleges, or professional schools attended;
3. Scholastic Aptitude Test scores from the College Entrance Examination Board;
4. three letters of recommendation from persons not related to the applicant; and
5. a personal interview is required.

Requests for further information and application forms should be directed to the Educational Coordinator, Radiologic Technology Programs, Box 3108, Duke University Medical Center, Durham, North Carolina 27710.

Expenses. A course fee of \$650 per year is charged. In addition, books and supplies will cost approximately \$225.

Financial Aid. There are no stipends. However, part-time employment in ancillary areas may be available in the Department of Radiology of the Duke and the Veterans Administration Medical Centers. A student should not expect to be employed during the first two months of the program and following that period should not be employed for more than twenty hours per week.

The program is approved for the enrollment of persons eligible for benefits under Title 38 USC(G.I. Bill). Please refer to the section on student aid in the chapter, General Information.

GREENSBORO COLLEGE AFFILIATION

An academic affiliation with Greensboro College, Greensboro, North Carolina, affords radiologic technology students the opportunity of additional education leading to a Bachelor of Science degree in biology. By paying regular tuition to Greensboro College, the students will receive academic credit for studies pursued at Duke-V.A.

There are two methods of participating in the Duke-V.A.-Greensboro academic affiliation. Students wishing to complete studies leading to a B.S. degree may attend Greensboro first to complete general college and selected elective

courses, after which they complete academic work at Duke-V.A. in the basic radiologic technology program. Upon graduation, students who successfully meet both Greensboro and Duke academic requirements will receive a B.S. degree from Greensboro College, and a certificate from the Duke University Medical Center-Veterans Administration Medical Center. Students wishing to attend Duke-V.A. first may do so and then complete degree requirements at Greensboro.

The second method of participating in this affiliation lends assistance to those who have already completed radiologic technology education and who wish an advanced education in radiologic technology, or further formal college courses to add to previous college work, or to begin college work.

Both options require completion of admissions applications to Greensboro College and Duke. Tuition will be paid to Greensboro College and both options lead toward completion of academic requirements for a B.S. degree. For those completing advanced work in radiologic technology, a certificate will be awarded.

Financial aid is available through student loans from Greensboro College.

Requests for further information and application forms should be directed to Dr. Arnold Van Pelt, Department of Biology, Greensboro College, Greensboro, North Carolina 27401.

Speech Pathology—Audiology Residency

Professor: LuVern H. Kunze, Ph.D., *Director, Center for Speech and Hearing Disorders*

Associate Professor: Bruce A. Weber, Ph.D.

Assistant Professors: Jennifer Horner, Ph.D. and John Riski, Ph.D.

Associate: Burton B. King, M.S.

Clinical Staff: Sarah Lockhart, M.S.; Jane Ann Struensee, M.A.; Sharon Didow, M.S.; Janice Mack, M.Ed.; Susan McNair, M.Ed.; Karen R. Nailling, M.S.; and Barbara G. Saunders, M.A.

Residency Program. The Speech Pathology-Audiology Residency is a twelve-month postmasters program conducted by the Center for Speech and Hearing Disorders, Department of Surgery, Duke University Medical Center with cooperative participation of the Audiology and Speech Pathology Service, Veterans Administration Medical Center and the Developmental Evaluation Clinic, Department of Pediatrics, Duke University Medical Center. The residency is



patterned after the residency programs in medicine and is designed to give the practicing speech pathologist advanced clinical training in three selected areas of specialization, including childhood language disorders; communicative disabilities secondary to neurogenic disorders; and organic disorders of speech including cleft palate, craniofacial anomalies, laryngeal pathology, laryngectomy, and respiratory disorders. Audiologists may specialize in auditory brainstem response audiometry or in audiology in medical settings. Competency in clinical practice and concomitant theoretical study are emphasized.

Admission Standards. A resident must have earned a masters or doctoral degree in speech/language pathology and/or audiology from an accredited institution of higher learning. Preferably, the applicant should hold a certificate of Clinical Competence from the American Speech and Hearing Association and must hold or be qualified for a license to practice in North Carolina.

Application Procedures. Residents are admitted 1 January, and 1 July. Applications for admission to the residency must be received four months prior to the date of admission. Applications will include:

1. completed Allied Health Division and Center for Speech and Hearing Disorders forms;
2. official transcript from the institution granting the terminal degree;
3. personal interview to be arranged by appointment; and
4. letters of recommendation from at least three persons able to evaluate the applicant's professional strengths and weaknesses.

Applicants will be notified regarding admission no later than seventy-five days prior to the date of admission.

Stipend. A stipend is available for the twelve-month residency.

Bulletin of Duke University
(USPS 073-680)

Durham, NC 27706

bulletin of
Duke University 1982-83

Graduate School



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Duke University 1982-83

Graduate School

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Typesetting by Duke University Printing Services, Durham, North Carolina
Printed by William Byrd Press, Richmond, Virginia

The information in the bulletin applies to the academic year 1982-83 and is accurate and current, to the best of our knowledge, as of April, 1982. The University reserves the right to change programs of study, academic requirements, lecturers, teaching staffs, the announced University calendar, and other matters described in the bulletin without prior notice, in accordance with established procedures.

Duke University does not discriminate on the basis of race, color, national and ethnic origin, sex, handicap, or age in the administration of educational policies, admission policies, financial aid, employment, or any other University program or activity. It admits qualified students to all the rights, privileges, programs, and activities generally accorded or made available to students. For further information, call Dolores L. Burke, Equal Opportunity Officer, 919-684-6578.

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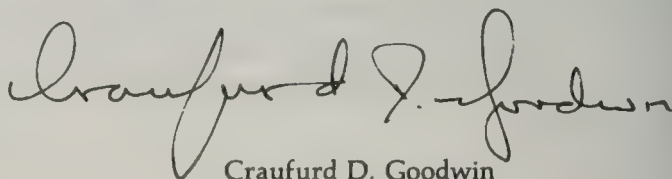
An abbreviated list of course offerings
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To the Prospective Graduate Student

From its beginning, Duke University has strived to create and to maintain a superior Graduate School. This is where excellence is established and where the two essential functions of a university, teaching and research, are truly inseparable. Over the years Duke's strength has grown in all the main fields of knowledge. The faculty enjoys international distinction. The laboratories, libraries, and computer facilities are among the very best. Yet the Graduate School remains small enough so that personal contact is a central feature of our programs, and fruitful interaction among departments is a common experience.

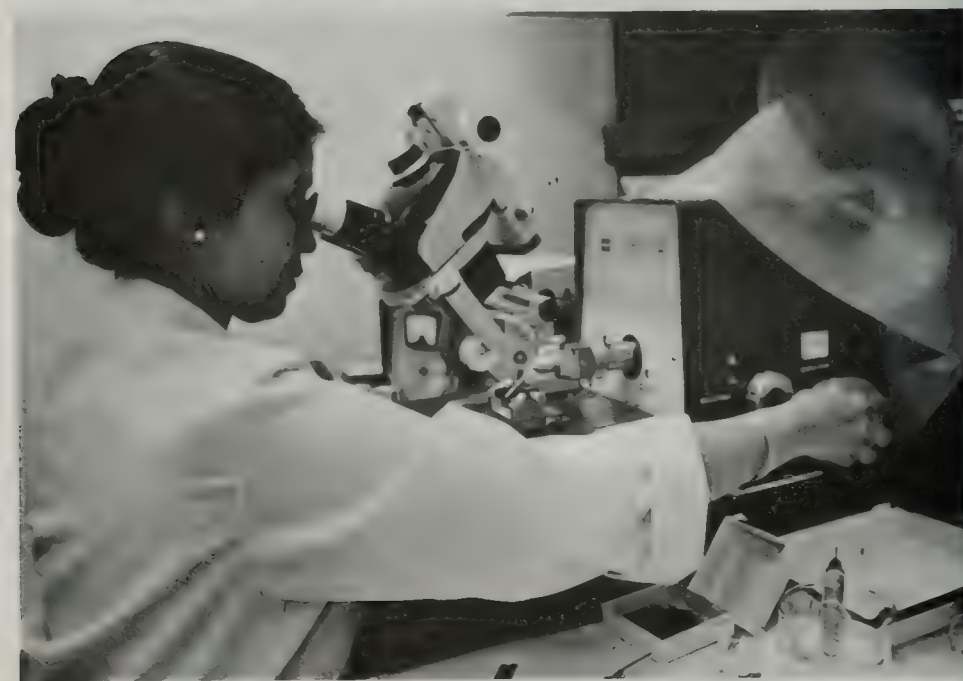
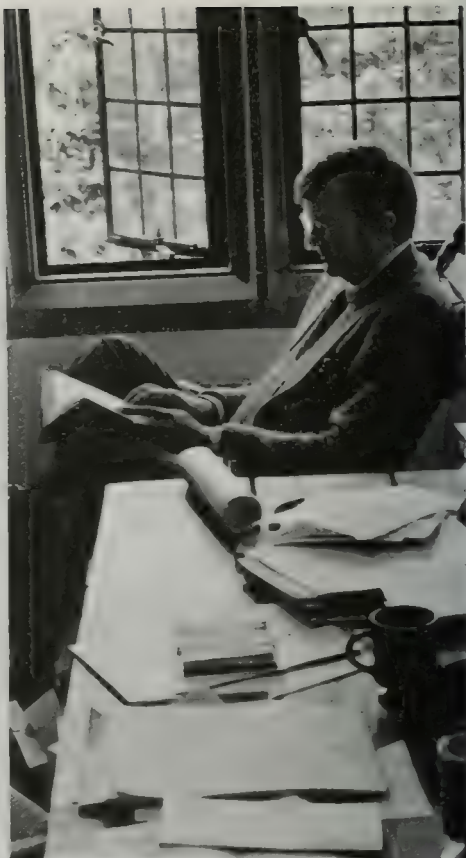
We believe that for the student in search of graduate education Duke University has much to offer. This is a community in which minds and ideas may grow. We provide training for many careers, but we seek also to stimulate personal creativity and to provide congenial surroundings in which education and research are both productive and pleasant.

We hope that the following pages will provide you with the information you require in making the important choice of the course of your graduate education.

A handwritten signature in cursive script, reading "Craufurd D. Goodwin". The signature is fluid and elegant, with the first and last names being more prominent than the middle initial.

Craufurd D. Goodwin
Dean of the Graduate School





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*Term expires September, 1982.



Introduction

A Community of Scholars

Writing in the 1920s the philosopher and man of science, Alfred North Whitehead, defined the purpose of a university in these terms: "The justification of a university is that it preserves the connection between knowledge and the zest for life, by uniting the young and the old in the imaginative consideration of learning." If this is true of a university generally, it is true of a graduate school especially. Faculty members and graduate students work together in the imaginative recasting of ideas necessary for successful research and the development of human knowledge.

Ideally, a graduate school is a community of scholars engaged in imparting and extending the realm of human knowledge in the arts and sciences. A select group of students is admitted each year to undergo the rigorous discipline of an advanced degree program, the successful among them to emerge as scholars of promise. To enter into graduate education today is to accept a real challenge, but this decision should not be made casually. The work toward a doctorate requires several years of tireless effort and possible sacrifice, and the material rewards may be less certain than in some alternative endeavor. However, pursued with determination, graduate education can be the doorway to a stimulating, creative, and meaningful life. The student who

is contemplating this challenge may have many questions in mind; the material that follows is an attempt to answer some of them.

The Decision to Go to Graduate School

The decision to work toward an advanced degree must be a personal commitment born of a willingness to devote oneself to many months or possibly years of academic discipline just at an age when one may be impatient for financial independence and freedom from academic discipline. Graduate education requires all the energy, enthusiasm, and self-discipline at one's disposal; to enter into it half-heartedly is to invite discouragement or failure.

An equally important requisite for success in graduate study is the possession of a natural curiosity and the capacity for self-discipline. A good undergraduate record may or may not be adequate evidence of these characteristics. Many students with excellent undergraduate records have been unsuccessful in graduate study because their undergraduate training stressed an ability to marshal facts and to articulate these facts rather than real understanding and analysis of material. On the other hand, many distinguished scholars had undistinguished undergraduate records. In gaining admission to a graduate school, the undergraduate record is, of course, an important

element, but usually some margin is left to allow for students who develop serious academic interests late in their undergraduate careers. Students are often best able to judge for themselves whether or not their grades are a true gauge of their ability.

There is no unerring way of knowing in advance whether one will be successful or happy in graduate school. It is quite likely, however, that if one has both the motivation and ability and does not try it, there will be regrets in later years. Although the decision must be an individual choice, superior intellectual ability is a scarce human resource, and the encouragement and utilization of it is a matter of community as well as personal concern.

Choosing a Graduate School

Over 250 universities today offer work leading to the Ph.D. degree. Among these are about 60 institutions which grant only two or three such degrees a year in all fields combined. At the other end of the scale are about 50 universities which account for nearly 70 percent of all doctorates granted in this country. Duke University is among the latter, as are most of the major institutions which offer programs ranging the breadth of academic disciplines. But even if one can narrow the field to about 50 major institutions, how does one select among these, and what factors should affect one's final choice? A few key factors are discussed briefly below.

Size. Size is not an infallible guide to the quality of a graduate school. There are a number of poor graduate schools of exceedingly large size and a number of extremely good small ones. However, it might be helpful simply to mention a few of the disadvantages of too many or too few students.

An extremely large graduate school—there are some which have between 6,000 and 12,000 enrolled—is not the ideal of a small number of superior students working closely in intellectual pursuits with a few esteemed

scholars. Classes of 50 to 100 students, inaccessibility of senior faculty, shortage of library materials and facilities, and only a nodding acquaintance with fellow students are a few of the possible drawbacks. An able student may develop well even in this atmosphere of mass production, but it is hardly the ideal.

An extremely small graduate school also has its disadvantages. Facilities are often limited, and the faculty is likely to be primarily composed of undergraduate instructors. A university must be willing to commit a significant portion of its resources to develop a graduate program of high quality and this is often not the case in an extremely small graduate school.

More important than the size of the entire graduate school is the size of the particular departmental program in which a student is interested. An optimum doctoral program will have an enrollment of perhaps 30 to 100 students, admitting 15 to 40 new students each year, and turning out perhaps three to ten Ph.D.'s per year. This information is usually available in university catalogues or government publications on higher education.

Duke University is committed to programs of moderate size in which the interests of the student are important. Total enrollment in the Graduate School is between 1,500 and 1,600 students. Between 400-500 new students are admitted each year from approximately 3,000 applications. Only three departments have more than 80 students; twenty departments have enrollments that fall within the optimum range suggested in the preceding paragraph.

Quality. Not only do universities differ considerably in their reputation for quality, but there are marked differences among departments within any university. Many excellent universities have a few weak departments in which a student would fare less well than in an excellent department in a less esteemed institution. Therefore,



the student should not be guided solely by the reputation of a university as a whole, but should inquire more specifically about the area of specialization.

Since judging the quality of a graduate program is necessarily subjective, no two people are likely to be in complete agreement. Prospective students would do well to talk with their undergraduate professors, particularly those who have themselves achieved some reputation in the world of scholarship. As witnessed by their own continuing writing and research, they are more likely to have reliable information on the merits of various graduate programs. Similarly, younger faculty members who are only four or five years out of graduate school may have more recent acquaintance with their own and other schools.

Another guide may be occasional questionnaires asking other educators to rank various graduate departments.

Alone, none of these guides is adequate; however, in conjunction with

individual advice and recommendations, they can serve as useful indicators. In summary, the best procedure is to take as many factors as possible into account, and then to apply to three or four of the schools high in consideration. (Applying to fifteen universities is a waste of an applicant's and the universities' time.) Write to the graduate school or to the departmental Director of Graduate Studies if further information is desired; visit the university in person, if possible; and carefully weigh the advice of distinguished faculty members of one's undergraduate college.

Duration of Program

The length of time a graduate student spends in study toward an advanced degree depends upon the requirements of the individual program, on personal work habits, and on the environment of the graduate school and the department in which the study is conducted.

The student's level of preparation before entering graduate school has a direct bearing on the speed with which the degree may be earned. A student who enters with proficiency in one or more foreign languages, and a good foundation in the chosen field may well be able to finish within the minimum time limits. On the other hand, the student who is not as well prepared may find that one and a half to two years are the minimum for the A.M. degree, and four to five years for the Ph.D. degree (although wise use of the summers may reduce this time somewhat). The total time may also be lengthened if the student must work during part of the period of residence.

The attitude of the graduate school and its various departments will also affect the time needed to complete the

degree. During the last decade the average time elapsing between entering graduate school and receiving the doctorate in American universities has been about ten years. A study of experience at Duke in 1979 indicated that the average doctorate in the humanities required a little over seven years, nearly six years in the social sciences, and slightly over four years in the sciences. Over the last few years, however, Duke University has been among the forerunners in reducing the time needed to obtain the Ph.D. without any sacrifice in quality. The effort has taken the form of trying to eliminate the unnecessary delays, particularly those due to financial burdens on the student. Duke ranks among the leading institutions in the country today in terms of financial aid per student from university

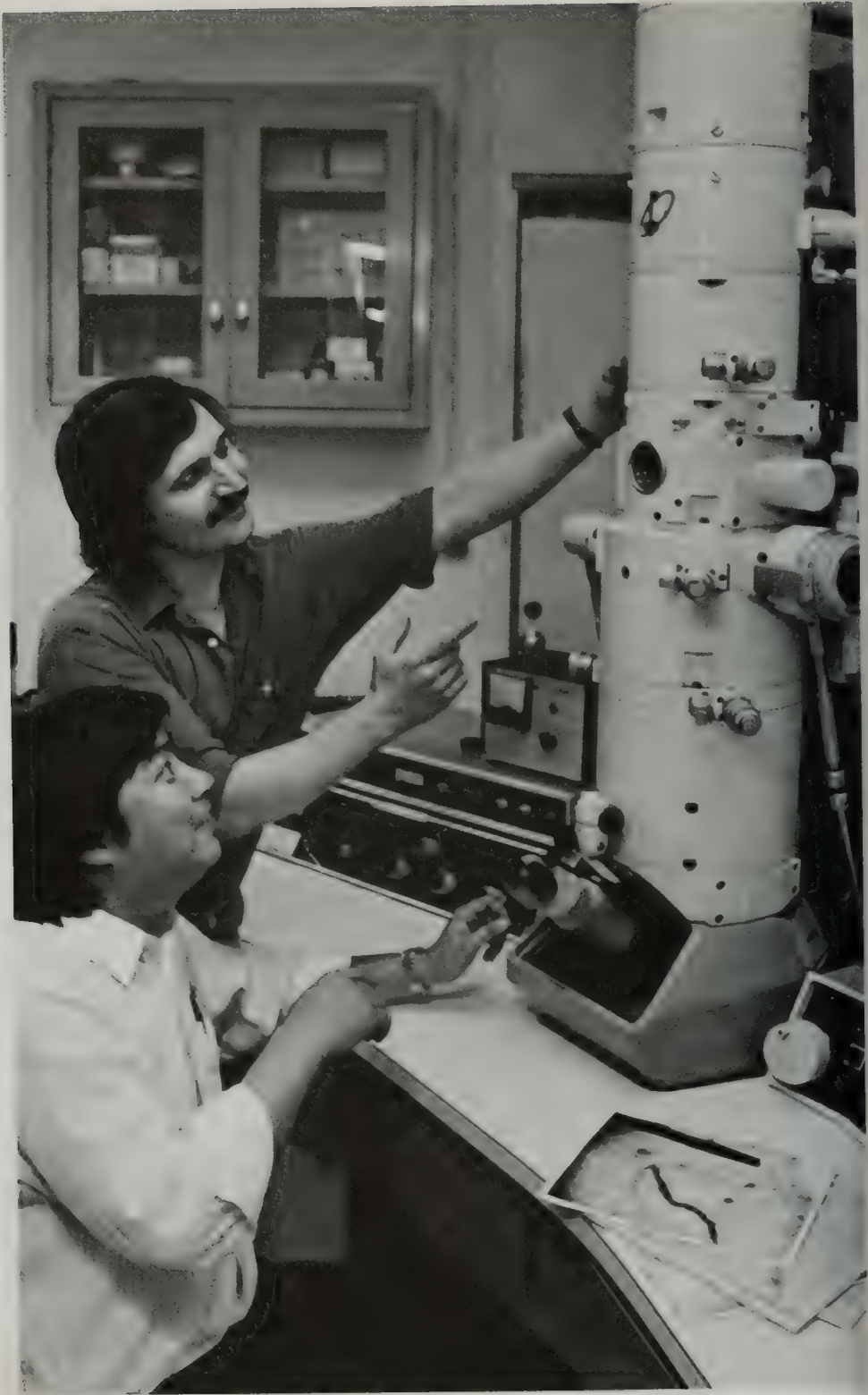


sources. Moreover, much of this aid is in the form of fellowships and scholarships which do not require burdensome services in return. The large public institutions are often more restricted to awards which require substantial teaching, research, or other duties, thus reducing the speed with which a student can complete the resident course work. A student will be wise to inquire to what extent progress toward a degree may be delayed by the work entailed in certain awards. If, for example, an assistantship lengthens unduly the time necessary to obtain a degree, a smaller fellowship may be preferable.

Another way in which Duke encourages deliberate speed toward fulfilling degree requirements is through its tuition charges. Many graduate schools charge tuition for three full years in a doctoral program. In 1958 Duke adopted the policy of charging full tuition and fees only up to the time the doctoral student passes the preliminary examination. (This examination is taken upon completion of all course and language requirements, usually at the end of the second year, before the

student is formally admitted to candidacy for the Ph.D.) After "prelims," tuition charges are substantially reduced. In choosing a graduate school, a prospective student should inquire about the fees for a full doctoral program, not merely the charges for the first year. The tuition and fee system at Duke has worked to encourage both students and their departments to arrange for preliminary examinations to be taken before the beginning of the third year. Some years ago fewer than half of the doctoral students at Duke took this examination before the beginning of the third year; today over 90 percent are doing so. This plan, aided by scholarship and fellowship aid, gives graduate students at Duke a marked advantage over their counterparts in many other graduate schools in acquiring their degrees in the minimum amount of time.

The duration of the graduate program, therefore, depends on many factors, but the policy of the Duke Graduate School is to keep the length of time a student is involved in obtaining an advanced degree at a minimum.



Duke University Graduate School

Teaching and Research

In surveying the progress made in the first seven years after the founding of Duke University, its first President, William Preston Few, wrote that he wanted "to see the Graduate School made strong because it will best and most quickly insure our attaining and maintaining a place of real leadership in the educational world." President Few believed that "more than anything else here our Graduate School will determine the sort of University we are to build and its standing in the educational world." These opinions have continued to prevail to the present day, with emphasis upon the interdependence of teaching and research as the necessary components of scholarship.

Over 650 members of the graduate faculty teach the approximately 600 courses and seminars offered in the Graduate School and supervise thesis and dissertation research. Many of the major universities of the world have helped to train this faculty; approximately 90 percent of the graduate staff hold degrees from the fifty institutions which make up the Association of Graduate Schools within the Association of American Universities. By place of birth, the faculty represent almost every state in the nation and almost two dozen foreign countries.

The 1,545 graduate students currently enrolled represent a similar diversity of background. Approximately

50 percent of the students are from undergraduate institutions in the Southeast, 27 percent from New England and the Northeast, 9 percent from the Midwest, 1 percent from the Northwest, 7 percent from the Southwest, and 6 percent from foreign countries.

The groundwork for learning may be laid in privacy—indeed a certain amount of private study and research is absolutely essential—but the vital stimulus to the learning process comes from one's contact with the minds of other people with similar or related interests. This is precisely why graduate schools are highly selective in their admissions policy, and it is one of the important reasons for their willingness to offer attractive fellowship awards to outstanding students. The superior student is a valuable catalyst both for fellow students and for faculty and is prized as such.

Faculty and students comprise the essential human factors in education, but their joint endeavor cannot prosper without adequate research and library facilities. Duke University has research facilities for physics, botany, zoology, chemistry, psychology, sociology, engineering, and biochemistry. These laboratories have been built entirely within recent years, and modernization and expansion have occurred in other scientific areas. The University has an excellent Computation Center on the campus and shares a computing facility

with the University of North Carolina and North Carolina State University. The Triangle Universities Computation Center is among the largest research-oriented computer facilities in the world. The University has a fine research library. In number of volumes, serials, and documents, and breadth of coverage, it is a much more adequate library than that available in many graduate schools with an enrollment two or three times as large. To the student in the arts, humanities, or social sciences, this is an immeasurable asset.

Among the many special features of the Graduate School a few important examples may be mentioned. For students in the biological and physical sciences, the facilities of the Duke Marine Laboratory at Beaufort, North Carolina, are available for course work and research. The laboratory has research buildings, classrooms, research vessels, and living quarters which make it an excellent research center in marine biology. Closer to home are the 8,300 acres of Duke Forest, managed by the School of Forestry and Environmental Studies, ideal for research on timber growth, soils, and related topics. A regional nuclear structure laboratory is housed on the campus and serves the major universities in the area. The phytotron, adjacent to the botany greenhouses, is an integrated series of plant-growth rooms, chambers, and greenhouses, with forty-six separately controlled environments providing more than 4,000 square feet of plant-growing space. The factors of the environment controlled in the units to study plant growth include light, temperature, nutrients, CO₂ concentration, and humidity.

Additional resources and facilities are available to the graduate student because of Duke's fine Schools of Law, Business, Medicine, Engineering, Forestry and Environmental Studies, and the Divinity School. A two-term summer session and the availability of courses at the nearby University of North Carolina at Chapel Hill, North

Carolina Central University in Durham, and North Carolina State University in Raleigh, under a cooperative arrangement, offer other opportunities to the graduate student.

No description of programs can begin to give the prospective student the full flavor of graduate study in a particular institution. A visit to the universities in which one is interested may be helpful in giving one a better picture. If this should be practical, the Duke Graduate School offers a warm invitation to prospective students to come to the campus during the year to discuss their possible application and admission. The visitor will find at Duke most of the facilities that one could hope for in the largest of institutions, and yet the University has been fortunate in avoiding many of the evils inevitable with mass education. Despite the total University enrollment of approximately 9,000, Duke has retained the sense of community that one usually associates with a small liberal arts college. And in an age when current architectural whim often adds yet one more variant style to an already assorted array of buildings, Duke has built a campus of unusual and architecturally coherent beauty. This, too, is an important part of education, creating an environment conducive to learning.

Special Programs

Center for the Study of Aging and Human Development. The primary aims of the center are to encourage and support basic and applied research on biomedical, behavioral, and social scientific aspects of adult development and aging; to train investigators for such research; to provide clinical training in geriatrics for health professionals; and to develop sources of scientific information which are accessible to interested individuals and governmental agencies. Although the center does not offer degrees, the varied programs, research laboratories, and clinical settings provide a context and resource for undergraduate and graduate students and

for health professionals with special interests in adult development and aging. Inquiries should be addressed to the Director, Center for the Study of Aging and Human Development, Duke University Medical Center, Box 3003, Durham, North Carolina 27710.

Asian-Pacific Studies Institute Fellowships. The purpose of Asian-Pacific Studies Institute Fellowships is to encourage and support advanced training in Asian-Pacific studies and in Chinese, Japanese, and eventually other Asian-Pacific languages. Fellowships provide both tuition and a living stipend up to the James B. Duke award amounts for a two-year period. Fellows will be expected to reach the equivalent of third-year level of proficiency of language training during the term of the award. Incoming graduate students with the Ph.D. as their objective, students in good standing in the first year of study in Duke professional schools, and current Duke students enrolled in Ph.D. programs may be considered for Asian-Pacific Studies Institute Fellowships. Further information may be obtained from the Director, Asian-Pacific Studies Institute, 2101 Campus Drive, Duke University, Durham, North Carolina 27706.

Canadian Studies Program. The purposes of this program are to increase American knowledge and understanding of Canada by formalizing and expanding graduate interest in Canada, to introduce the study of Canadian life and culture at the undergraduate level, and to encourage such study in primary and secondary schools. The program awards a limited number of graduate fellowships and teaching assistantships for the study of Canada by American residents at Duke who are working in their departments on a Canadian topic for their dissertations; sponsors lectures by Canadian specialists; and supports seminars devoted to Canada, held off and on campus. Inquiries should be addressed to the Director of Canadian Studies, Center for International Studies, 2101 Campus Drive, Duke University, Durham, North Carolina 27706.

The University Program in Cell and Molecular Biology. This program centralizes the cell, developmental, and molecular biology research training found in eight of the University's departments: anatomy, biochemistry, botany, microbiology and immunology, pathology, pharmacology, physiology, and zoology. Prospective students may either apply to one of the participating departments, or apply directly to the program and designate a departmental preference. Applications for admission and fellowship support must be received by February 1, but early applications may receive earlier consideration. Inquiries should be addressed to Dr. Robert L. Hill, Director, The University Program in Cell and Molecular Biology, Box 3711, Duke University Medical Center, Durham, North Carolina 27710.

Center for Commonwealth and Comparative Studies. The principal purpose of the center is to further academic interest in the Commonwealth as an international unit; in the domestic affairs of its members, past and present; and in the intra-Commonwealth relations of those countries.

The center sponsors seminars and lectures at the University by visiting Commonwealth scholars.

The center also has a publication program in cooperation with the Duke University Press. The Commonwealth Studies Series currently numbers forty-six volumes. Inquiries should be addressed to the Director, Center for Commonwealth and Comparative Studies, International Studies Center, Duke University, Durham, North Carolina 27706.

Program in Comparative Studies on Southern Asia. The basic purpose of this program is twofold: to facilitate research on the political, historical, economic, and sociocultural development of countries in southern Asia (India, Pakistan, Sri Lanka, Nepal, and Bangladesh); and to provide for the systematic training of graduate students in anthropology, economics, environmental studies, history, political

science, religion, and sociology, with special emphasis on the area. The program publishes hardcover monographs on the southern Asian region, brings visiting Asian scholars to the campus for lectures and symposia, and cosponsors forums and research activities with the Southern Atlantic States Association for Asian and African Studies and the Association of Asian Studies. Inquiries should be addressed to the Administrative Assistant, Program in Comparative Studies on Southern Asia, Duke University, Durham, North Carolina 27706.

Continuing Education. Local adult residents may pursue graduate academic study at Duke as nondegree students through the Office of Continuing Education, which will provide both academic and career counseling to such students. Information and applications may be obtained from the Office of Continuing Education, 107 Bivins Building, Duke University, Durham, North Carolina 27708.

Cooperative Programs with Neighboring Universities: Library Exchange. Through a cooperative lending program, graduate students of the University of North Carolina and Duke University are granted loan privileges in both libraries.

Cooperative Program in Russian and East European Studies. The graduate schools of Duke University and the University of North Carolina offer a cooperative program leading to the A.M. and Ph.D. degrees in several disciplines (economics, history, literature, linguistics, political science, and sociology), with a concentration in Russian and East European studies. Students admitted to one institution are encouraged to enroll in courses advantageous to their program at the other institution, to utilize the libraries and facilities of both universities, and to participate in the periodic colloquia involving the personnel of the two institutions and distinguished visiting scholars. For information, write Dr. Vladimir G. Trembl, Department of Economics, Duke University, Durham, North Carolina 27706.

Center for Demographic Studies. Training under the auspices of the center leads to a Ph.D. degree within either the Department of Sociology or the Department of Economics. Although degrees are awarded through either department, the program is designed to provide an integrated cross-disciplinary training in the common specialty area of population studies. The bearing of sociological and economic theory upon the analysis of demographic phenomena is emphasized, and participation in active research projects is afforded center trainees. The facilities of the center include a population library and extensive data resources; seminars are held during the academic year for presentations by students, staff, and visiting guest lecturers. Inquiries may be directed to Dr. George C. Myers, Director, Center for Demographic Studies, Box 4732 Duke Station, Duke University, Durham, North Carolina 27706.

Duke Environmental Center. The purpose of the center is to focus attention on pressing environmental problems by providing educational opportunities in environmental subjects for students and faculty and by promoting interdisciplinary environmental research. The center does not offer degrees, but allows students and faculty to emphasize the environmental aspects of their studies and research by becoming affiliated with the center while remaining in their established departments and professional schools. The center sponsors a visiting speaker program, graduate and faculty seminars, and graduate and undergraduate courses in environmental studies. Inquiries should be addressed to the Environmental Center Office, 118 School of Engineering, Duke University, Durham, North Carolina 27706.

The University Program in Genetics. This is an interdisciplinary program with a faculty drawn from several of the biological science departments (anatomy, biochemistry, botany, microbiology and immunology, zoology), and is designed to meet the needs of students with a variety of educational

backgrounds and professional objectives who are interested in specializing in the field of genetics. Interested students should apply for admission to the department of their choice, and after being admitted make arrangements to participate in the program. For information, contact Professor Nicholas W. Gillham, Biological Sciences Building, Duke University, Durham, North Carolina 27706.

Master of Arts Program in Humanities. This interdepartmental program centered in the humanities and leading to the A.M. degree is designed for students whose interests cross disciplinary lines and are not easily met by departmental programs. Students select a set of thematically related courses from the graduate level offerings of humanities departments, and, where appropriate, from other departments as well. The interdepartmental committee which manages the program offers aid in tailoring a set of courses to the individual student's needs, approves the program chosen, and provides ongoing supervision. In addition, an introductory, noncredit seminar is planned as a shared experience for all students in the program.

Further information may be obtained by writing Professor Peter Burian, Director, Master of Arts Program in Humanities, 328 Carr Building, Duke University, Durham, North Carolina 27706.

Duke University International House. The International House is the focal point for social and cultural programs planned especially for and by foreign students. It is a meeting place for all internationals studying or working at the University. An orientation to Duke and the Durham community is held prior to the start of classes each fall semester.

Some of the programs sponsored by the International House include: the International Association, which consists of American and foreign students organized to foster mutual understanding among the students and

staff from all nations represented in the Duke community through cultural and recreational activities; the Host Family Program, which offers all students the chance to become acquainted with an American family; the International Wives Club, which provides a structure for international women to meet with American women in an informal atmosphere; and the Speaker's Bureau, which provides an opportunity for internationals to share their cultures and customs with members of the Durham community through speaking engagements to city school classes, civic organizations, and social clubs.

The programs are available to all international visitors to facilitate intercultural communication and provide a means for easy acculturation into the American society. Address inquiries to Jean D. Wilbur, Director, International House, 2022 Campus Drive, Duke University, Durham, North Carolina 27706.

Islamic and Arabian Development Studies. This program, begun in 1977 with the assistance of grants from the government of Saudi Arabia and several corporations in the United States, sponsors research on Islamic themes with special reference to developmental problems of the Arabian peninsula. The program provides a limited number of graduate fellowships as well as supporting courses and seminars on the language, literature, and contemporary problems of the Islamic world. In 1979 the program sponsored an international conference at Duke and in 1982 will hold a second conference in Spain. Smaller conferences are held at Duke from time to time: in 1982 there will be a conference on security problems of the Arabian peninsula and a seminar in calligraphy, illumination, and art of the Qur'an. It also sponsors an outreach program which includes the College of Charleston, Converse College, Davidson College, Furman University, Johnson C. Smith University, Salem College, the University of the South, and Wake Forest University. Inquiries should be addressed to the

Director, Islamic and Arabian Development Studies, 2114 Campus Drive, Duke University, Durham, North Carolina 27706.

Latin American Studies Program.

The Graduate School offers an interdepartmental program in Latin American studies leading to the A.M. and Ph.D. degrees. Students may write their theses and take their degrees in anthropology, history, economics, political science, sociology, or Hispanic languages and literature. The purpose of the program is to provide a desirable combination of courses on the Hispanic world in these disciplines and to give candidates more rigorous training in Latin American studies. Inquiries should be addressed to the Chairman, Council on Latin American Studies, Center for International Studies, 2101 Campus Drive, Duke University, Durham, North Carolina 27706.

Medical Historian Training Program. Conducted under the auspices of the School of Medicine and the Graduate School, this program requires a minimum of six years of graduate study for the M.D.-Ph.D., and four or five years for the M.D.-A.M. The M.D.-Ph.D. program is intended for those students who know that their major career effort will be in teaching and other scholarly activities in the history of medicine (not necessarily to the total exclusion of clinical medicine). The M.D.-A.M., on the other hand, is appropriate for those who are undecided, but who wish to acquire a firm foundation for future study, or for those who are seriously interested in pursuing an avocation in the history of medicine. Applicants must meet the requirements for admission to the School of Medicine and the Graduate School in the Department of History. Inquiries should be addressed to Dr. John Crellin, Director, Medical Historian Training Program, Box 3702, Duke University Medical Center, Durham, North Carolina 27710.

Medical Scientist Training Program. This program is conducted under the auspices of the Graduate School

and the School of Medicine and is designed for students with a strong background in science who are motivated toward a career in the medical sciences and academic medicine. It provides an opportunity to integrate graduate education in one of the sciences basic to medicine with the clinical curriculum of the School of Medicine, and usually requires six to seven years of study leading to both the M.D. and Ph.D. degrees. Interested students should apply for admission to both the Graduate School and the School of Medicine. Additional information may be obtained by contacting Dr. Henry Kamin, Associate Director, Medical Scientist Training Program, Department of Biochemistry, Duke University Medical Center, Durham, North Carolina 27710.

Program in Medieval and Renaissance Studies. This program is administered by the Duke University Committee on Medieval and Renaissance Studies. A participating student is enrolled in one of the regular departments and fulfills the Ph.D. requirements for that discipline while taking a program of electives which will advance his or her interdisciplinary competence in the medieval or Renaissance areas. Participation in the program will fulfill the requirement for work in a related field. Inquiries should be directed to the Director of Graduate Studies, Duke University Program in Medieval and Renaissance Studies, Box 4666, Duke Station, Durham, North Carolina 27706.

The University Program in Neurobiology. This interdisciplinary program was developed in response to recent advances in neurobiology which have resulted in closer ties among the various approaches to studying the nervous system. The program is designed for students who wish to study the nervous system at several levels ranging from the molecular to the behavioral, and students will be advised to take courses in neuroanatomy, neurophysiology, neuropharmacology, and neuropsychology. The heart of the training is a research apprenticeship that leads to a Ph.D. dissertation. Each

student must affiliate with one of the participating departments—anatomy, biochemistry, microbiology and immunology, pathology, pharmacology, physiology, psychology, and zoology—and must meet the requirements of that department for the Ph.D. degree.

Prospective students may apply directly to the University Program in Neurobiology or to one of the eight participating departments. Those who apply to the program should designate the department of choice; those who apply to the department should indicate their interest in the University Program in Neurobiology. Inquiries should be directed to Professor Irving T. Diamond, Director, The University Program in Neurobiology, Department of Psychology, Duke University, Durham, North Carolina 27706.

Oak Ridge Associated Universities. Duke University is one of the sponsoring universities of the Oak Ridge Associated Universities located at Oak Ridge, Tennessee. The graduate research program at Duke has available to it all the facilities of the Oak Ridge National Laboratory and the cooperative supervision of student research by the staff at Oak Ridge. Fellowships in several fields of science are available to qualified applicants. Inquiries should be addressed to Dr. Boyd R. Strain, Department of Botany, Duke University, Durham, North Carolina 27706.

Institute of Policy Sciences and Public Affairs. See Public Policy Studies in the chapter "Advanced Degree Programs" in this bulletin.

Center for Resource and Environmental Policy Research. Housed in the School of Forestry and Environmental Studies, the center was established to provide an academic center of national reputation for the analysis of contemporary resource and environmental policy issues, a forum for the analysis of public and private responsibilities for natural resources and the environment, and a link between the specialized knowledge of academia and the information needs of government and in-

dustry. Course work is offered in both intensive (one to three weeks) and semester-long formats. For further information, write to the Director, Center for Resource and Environmental Policy Research, Biological Sciences Building, Duke University, Durham, North Carolina 27706.

The Round Table on Science and Public Affairs. The Round Table on Science and Public Affairs is an activity of the Duke University Graduate School with the following purposes: to increase the academic community's and the public's understanding of science and technology and their place in the modern world, to encourage scientists and engineers to contribute to the solution of societal problems in areas where their special competence is relevant, and to contribute to the preparation of scientists and engineers for careers in public service. The round table sponsors a series of public lectures by leading experts on major national and international problems to which science and technology are related, and a postdoctoral program. For further information, contact Professor William Bevan, Director, The Round Table on Science and Public Affairs, The Graduate School, Duke University, Durham, North Carolina 27706.

The University Program in Toxicology. This interdepartmental program provides graduate students and postdoctoral fellows an opportunity for a strong interdisciplinary education in toxicology through support of courses, seminars, and research. With recognition of the impact of toxic reactions on the public health and ecological systems, toxicology is of increasing significance to public policy areas. The objectives of program members are to understand and devise controls for those toxicological phenomena having direct pertinence to human life and health, to train scholars who will advance the science of this discipline, and to provide a forum for faculty and student discussion of recent research developments in the area.

The faculty of the toxicology program is drawn from anatomy, biochemistry, chemistry, forestry and environmental studies, microbiology and immunology, pathology, pharmacology, physiology, zoology, and several departments in the School of Medicine. Current areas of research include pulmonary toxicology, neurotoxicology, immunotoxicology, carcinogenesis, and biochemical toxicology. Students may base their training in general toxicology, ecotoxicology, or in any area in which the faculty is currently involved. Prospective graduate students may apply to the program directly or to one of the participating Graduate School departments, and must be admitted to the department and to the program. Students will be expected to fulfill departmental Ph.D. degree requirements as well as toxicology program requirements.

Information on fellowship support and application procedures may be obtained from Dr. William S. Lynn, Director, University Program in Toxicology, Box 3711, Duke University Medical Center, Durham, North Carolina 27710.

Organization for Tropical Studies. Duke University is a member of an international consortium created to promote an understanding of tropical environments through research and research training programs in the New World tropics. A basic eight-week OTS course in tropical biology is conducted twice a year, and advanced course offerings are periodically scheduled in agriculture, anthropology, botany, earth sciences, forestry, geography, marine biology, meteorology, and zoology. For information, write to Dr. Donald Stone, Department of Botany; Dr. Peter Klopfer, Department of Zoology; or Dr. Kenneth Glander, Department of Anthropology; Duke University, Durham, North Carolina 27706.

General Regulations Governing Graduate Studies

The official, detailed *Bulletin of Duke University: Graduate School*, published in

March of each year, gives an account of regulations concerning graduate work at Duke University and a full description of course content. The following pages are a summary of these materials for 1982-83 and should provide sufficient information for the prospective student. The bulletin is normally mailed to each student who is admitted to the Graduate School in the late spring of the year of matriculation so that the course program may be planned for the first year.

Admission

Admission is required of (1) all students who intend to pursue study toward a degree offered by the Graduate School, (2) all other students who desire credit for whatever purpose for graduate courses—except students who register as special students in the summer session or students who register for graduate courses through the Office of Continuing Education. Students who have discontinued a program of study after earning a master's degree here must by letter request permission of the Dean to undertake a doctoral program.

Most graduate departments will consider applications from students wishing to pursue degree study on a full-time or part-time basis. Part-time study requires a minimum registration of 6 units per semester. The time limits for completion of degrees are the same for both full- and part-time students. Financial aid from Duke University is not available to part-time students.

A student seeking admission to the Graduate School of Duke University must have received the bachelor's degree (or the equivalent) from an accredited institution. The student's undergraduate program should be well-rounded and of high quality, indicating ability for graduate study. Ordinarily the student should have majored in the area of intended graduate study. Many departments (see the chapter "Advanced Degree Programs") list specific prerequisites. Students are urged to antic-

ipate the language requirement and are reminded that the Graduate School Foreign Language Tests in French, German, Russian, and Spanish are offered to undergraduate and graduate students at many testing centers (see the section on language requirements in this chapter).

Procedures. A student seeking admission to the Graduate School should request the Dean of the Graduate School to send an application packet which contains all required forms and detailed application instructions. The application form should be filled out completely, signed, and returned to the Graduate Admissions Office accompanied by a nonrefundable fee of U.S. \$30 in check or money order payable to Duke University. In addition, the student is required to provide the following supporting documents: (1) two copies of the official transcript from each post-secondary institution attended (college, university, or seminary) sent to the Graduate School directly by the institution; (2) as soon as possible, two supplementary transcripts showing completion of work which was in progress when the earlier transcript was made; (3) three letters of recommendation from persons best qualified to judge the applicant as a prospective graduate student, written on the forms provided and returned by the applicant in the confidential envelopes that have been sealed-then-signed by the recommenders; (4) official scores on the Graduate Record Examinations Aptitude Test for all departments; and (5) official scores on the Graduate Record Examinations Advanced Test for the Departments of Botany, English, Microbiology and Immunology, Music, Romance Languages, and Zoology. It is recommended that the student take the Advanced Test if he or she is applying in anatomy, biochemistry, chemistry, computer science, electrical engineering, geology, history, mathematics, mechanical engineering and materials science, pathology, philosophy, physics, physiology, political sci-

ence, or psychology.

Students applying for fall admission and award should take the Graduate Record Examination no later than the October testing in the previous year to meet our February 1 deadline. Further information on the GRE and registration forms can be provided at the applicant's college or by the Educational Testing Service, Box 955, Princeton, New Jersey 08541.

Fully qualified students from outside the United States are invited to apply for admission to a degree program. The foreign student must, in addition to the information required of all students, submit the following materials: (1) if the student's native language is not English, certification of English proficiency demonstrated by scores from the Test of English as a Foreign Language (TOEFL), administered through the Educational Testing Service, Box 899, Princeton, New Jersey 08541 (the Graduate School requires a score of 550 or higher on the TOEFL), and (2) a statement showing financial arrangements for the proposed term at Duke (estimated costs per calendar year are between \$14,000 and \$15,000). Foreign students may apply for full-time study only.

During new matriculants' first registration period at Duke, every foreign student whose native language is not English will be required to take an oral and written test to verify language facility. Until competence is determined, admission and arrangements for an award involving teaching must remain provisional. Students found to lack the necessary competence will be required to undertake additional English language instruction.

A student who does not successfully pass this course during the first year of residency will not be permitted to continue graduate work at Duke University. Passing this examination will not meet degree requirements for a foreign language.

Applicants who are admitted will be offered full admission, provisional

admission, or nondegree admission and will receive a letter of admission from the Dean of the Graduate School and an acceptance form. The process of admission is not complete until the student returns the acceptance form. *Provisional admission* for a trial period of one semester or a minimum of twelve hours of course work is offered to students who appear to warrant admission but do not fully comply with admission requirements. Graduate credit earned under provisional status may be applied toward an advanced degree at Duke University if and when the student is granted full admission. *Nondegree admission* is offered to students who meet the admission requirements and who desire to engage in graduate study not subject to the restrictions of a graduate degree program. With the approval of the student's major department and the Dean of the Graduate School, a maximum credit of 12 units earned under non-degree status may be applied toward an advanced degree at Duke University if and when the student is granted full admission.

It is the applicant's responsibility to make certain that the Graduate School office has received all required material before the specified deadlines. To ensure that the Admissions Office will have adequate time to assemble all items submitted on an applicant's behalf, applications should be submitted at least two weeks before the closing dates listed in the calendar at the close of this chapter. Materials submitted in support of an application are not released for other purposes and cannot be returned to the applicant.

We encourage all candidates to complete their applications by February 1. Anyone whose folder is not complete by that date will face the possibility that departmental enrollment will have been filled.

Earning the Degrees

Duke University offers graduate programs leading to the specified advanced degrees in the following fields:*

Anatomy, Ph.D.
 Anthropology, Ph.D.
 Art History, A.M.
 Biochemistry, Ph.D.
 Biomedical Engineering, M.S., Ph.D.
 Botany, A.M., M.S., Ph.D.
 Business Administration, Ph.D.
 Chemistry, A.M., Ph.D.
 Civil and Environmental Engineering, M.S., Ph.D.
 Classical Studies, Ph.D.
 Computer Science, A.M., Ph.D.
 Economics, A.M., Ph.D.
 Electrical Engineering, M.S., Ph.D.
 English, A.M., Ph.D.
 Forestry and Environmental Studies, A.M., M.S., Ph.D.
 Geology, M.S., Ph.D.
 Germanic Languages and Literature, A.M.
 Health Administration, M.H.A.
 History, A.M., Ph.D.
 Humanities, A.M.
 Mathematics, A.M., M.S., Ph.D.
 Mechanical Engineering and Materials Science, M.S., Ph.D.
 Microbiology and Immunology, Ph.D.
 Musicology, A.M., Ph.D.
 Pathology, M.S., Ph.D.
 Pharmacology, Ph.D.
 Philosophy, A.M., Ph.D.
 Physical Therapy, M.S.
 Physics, A.M., Ph.D.
 Physiology, Ph.D.
 Political Science, A.M., Ph.D.
 Psychology, Ph.D.
 Public Policy Studies, A.M.
 Religion, A.M., Ph.D.
 Romance Languages, A.M., Ph.D.
 Sociology, A.M., Ph.D.
 Zoology, Ph.D.

*Students interested in additional information on departmental programs not furnished in the *Bulletin of Duke University: Graduate School* should contact the Director of Graduate Studies in the appropriate department.

The Language Requirement

Although individual departments establish their own minimal requirements (see individual departmental headnotes in the chapter "Advanced Degree Programs"), the regulations of the Graduate School require no foreign language for the master's degree, and, in many departments, a reading knowledge of one foreign language, ancient or modern, for the Ph.D. degree. The languages normally required are French, German, and Russian, but others may be offered if appropriate and approved. The foreign language requirement may be satisfied in the following ways: (1) by a passing score on one of the Graduate School Foreign Language Test (GSFLT) examinations administered at any national center prior to entering Duke or at Duke University after matriculation and taken no longer than six years before the preliminary examination, (2) by transfer from another institution, with the limitations set forth in the more detailed *Bulletin of Duke University: Graduate School*, (3) in any language for which GSFLT tests are not available, by a reading examination administered by a qualified examiner and arranged by the Graduate School office, or (4) by a reading examination in any foreign language, administered by a qualified member of the faculty under a procedure specified by the department and approved by the Dean and the Executive Committee of the Graduate Faculty.

Advanced level, noncredit, reading courses in French and German are provided for students who need them.

In special circumstances a department that wishes to do so may ask the Dean and the Executive Committee of the Graduate Faculty to waive the language requirement.

Other Requirements

The general requirement for a master's degree is a minimum of 30 units (semester hours) of course-seminar-research credit. The student must present acceptable grades for a

minimum of 24 units of graduate courses. The nature of the additional 6 units for which students must register depends on whether they are enrolled in thesis or nonthesis programs; i.e., these last 6 units are earned either with successful submission of the thesis or with such other courses or academic exercises as are approved by the students' departments.

A master's program can be completed in one academic year, but the student who presents a thesis usually needs at least a calendar year, and foreign students should be prepared to study for two years. The maximum length of time permitted from first registration to completion of all requirements is six years. Under certain circumstances a maximum credit of 6 units may be transferred toward the master's degree for graduate courses completed elsewhere, provided the grades earned in the particular courses were not less than *B* or the equivalent. In such a case, however, the transfer of graduate credit does not reduce the required minimum registration for a master's degree at Duke.

The course-seminar-research requirement in the doctoral program is a minimum of 60 units, but the proportions of course-seminar work and research are generally flexible, based on individual needs. Those applicants with master's degrees, after establishing quality work here, may be granted transfer credit up to a maximum of 30 units, i.e., the equivalent of one year of residence. The dissertation is expected to be a mature and competent piece of writing, embodying the results of original and significant research. All dissertations will be published on microfilm and the author may retain copyright privileges.

Time limitations are set for the completion of the doctoral program. The preliminary examination, which may be taken only after language, course-seminar, and residence requirements have been met, formally admits a student to candidacy for the degree. This examination should be passed by

the end of the third year of doctoral study. The interval between preliminary examination and presentation of an acceptable dissertation should ordinarily be one to two years and may not be more than four years without special approval by the Dean. Should this interval extend beyond five years, a second preliminary examination usually becomes necessary.

Financial Information*

Tuition and fees are charged at the rate of \$207 per unit (a unit is equivalent to a semester hour), with the normal full program of study being 30 units for an academic year. Upon successful completion of the preliminary examination and the residence requirement, the normal full program during the dissertation period is 3 units per semester while in residence, or 1 unit per semester while not in residence. The basic necessary expenses for a year of graduate study, assuming one lives in University graduate housing, are therefore approximately as follows:

	<i>First and Second Year</i>	<i>Dissertation Year</i>
Tuition	\$6,210	\$1,242
Health Fee	170	170
Room Rent* (Central Campus Apartments)	2,338	2,338
Meals†	1,540	1,540

*Depending upon accommodations chosen.

†Cafeteria estimate.

Additional allowances should be made for books, laundry, and other personal expenditures.

Apartment accommodations for graduate and professional students are available in the Central Campus Apartments, the Town House Apartments, and modular homes, all of which are conveniently located close to East and

West Campus. Two- and three-bedroom apartments are available furnished or unfurnished. It is expected that many more applications will be received for these units than can be accommodated. In addition to University housing, the Central Campus office maintains an off-campus listing service which provides a list of privately owned homes, apartments, duplexes, and efficiencies for rent in Durham.

Financial Aid. In recent years at Duke about two-thirds of all full-time students have held an award of some type; about one-third of these were aided by Duke funds and the other two-thirds by funds from other sources. Part-time students are not eligible for financial aid from the University.

The student who seeks financial aid from Duke University should be certain that the request for admission and award is filed not later than February 1 of the year in which September admission is sought. The application for admission, including transcripts of previous college work and letters of recommendation, is processed by the Graduate School and forwarded to the department in which the student wishes to pursue advanced work. The graduate faculty—or admissions committee—in the department reviews all applications and then makes its recommendation to the Dean for announcement in late March. The most outstanding applicants are then offered awards; the next in order of rank are placed on an alternate list for awards. Other students are offered only admission to the Graduate School. Because of multiple applications by students, a fraction of the awards offered by any graduate school are not accepted. Alternates on the award list are immediately notified, and the process continues until the desired number of awards has been made.

Awards to entering students at Duke are in the form of fellowships, scholarships, and assistantships. Students holding awards usually are paid in nine equal installments beginning in late September.

*The figures contained in this section are subject to change prior to the beginning of the fall, 1982, semester.



James B. Duke Graduate Fellowships are provided through a special endowment of the Duke Endowment. Fellows are chosen from nominations made by the departments. Only outstanding applicants who are seeking the Ph.D. degree are considered. These nominations are made in late February and are judged in a competition which includes candidates from all departments granting the Ph.D. degree. The fellowships provide for payment of tuition for full registration and a stipend of \$533 per month for twelve months in 1982-83, and \$600 per month in 1983-84 and 1984-85. The award requires no service beyond that which is required of all students in a given department as a part of their training

and is renewable each year upon satisfactory progress toward the degree at a fellowship level of quality. The total value of a James B. Duke Fellowship over the full three years of tenure is over \$40,000 at current tuition rates.

Graduate Fellowships range in value to \$10,500 for the academic year and are made on a year-to-year basis. They are awarded upon recommendation by each department. No service is required as a prerequisite for accepting a fellowship, but all fellowship holders are expected to maintain full-time registration.

Special Graduate Fellowships for Minority Students provide for payment of tuition plus a stipend of \$425 per month for nine months. They are

awarded for one year to qualified applicants upon the recommendation of the department.

Graduate Scholarships provide for payment of tuition or partial tuition. Full tuition scholarships are valued at \$6,210 for the academic year. Scholarships are awarded upon the recommendation of each department.

Graduate Assistantships range in value to \$10,000 for the academic year. Assistants may be permitted to reduce their registration to 12 or 9 units, depending on the amount of service required. Residence credit as a full-time student is allowed under these circumstances. Assistantships are most common in the science departments, where the student often provides laboratory assistance to various members of the faculty. Most graduate assistants remain in residence during the summer sessions carrying research or course credit. In this way, the normal progress toward a degree is not impeded by the reduced load during the fall and spring semesters. Departmental research funds are often available to provide financial assistance during the summer.

Other graduate fellowships are available from foundations, industry, or the government. Among those at the University's disposal are: Kearns fellowships in religion, Mellon fellowships and traineeships under a grant from the Office of Education for students in the Canadian Studies Program, and Medieval and Renaissance Studies fellowships. Over 300 other traineeships and assistantships are available in the biological, physical, and social sciences under grants from the National Institutes of Health, National Institutes of Mental Health, National Science Foundation, research agencies in the Department of Defense, and other governmental agencies.

Loans. Students who anticipate the need to supplement their financial resources through loans should contact their state lending agencies. These agencies provide loans through the

Federally Insured Student Loan Program. Some have application deadlines as early as April 1. A list of the state lending agencies with addresses is available upon inquiry to the Graduate School office.

It is the policy of the Graduate School to provide loans through the University to help students meet their educational expenses. Only students with full-time status who meet the federal criteria for need but who are unable to obtain loans from their state agencies are eligible for loans through the University. Loan funds are provided through the Federally Insured Student Loan Program, the National Direct Student Loan Program, and funds solely under institutional control. Generally, loans made from these funds or the state lending agencies bear no interest charge to qualified borrowers while they maintain student status and for a short period thereafter. Interest during the repayment period is at a generally favorable rate. The amount of a loan through Duke for first year graduate students is usually limited to the amount of tuition.

Inquiries concerning loans should indicate the department of intended matriculation and include all pertinent information concerning application to a state agency. These inquiries should be addressed to the Financial Aid Coordinator, Graduate School, Duke University, Durham, North Carolina 27706.

The costs of graduate education are high, but Duke University attempts to allocate its funds so that the superior student is able to finish work for a degree in the normal length of time regardless of personal financial resources. This is a contribution to the community of scholarship which the University is glad to bear.

The applicant who wishes further information on facilities and regulations on course programs not covered in this bulletin is invited to write to the Dean of the Graduate School, or the Director of Graduate Studies in the department of intended study.

Calendar of the Graduate School

Summer Session 1982

First Term: May 13-June 26

Second Term: June 29-August 12

Academic Year 1982-83

First Semester: September 1-December 22

Second Semester: January 10-May 2

August 25-26	Registration for first semester
September 1	Classes begin
October 15-18	Fall break
November 24-28	Thanksgiving recess
December 9-15	Reading period*
December 22	End of first semester
January 7	Registration for second semester
January 10	Classes begin
March 5-13	Spring recess
April 19-25	Reading period*
May 2	End of second semester
May 8	Commencement

Special Deadlines for Admission Applications

July 15, 1982	Last day for completing application for admission to the fall 1982 semester
November 1, 1982	Last day for completing application for admission to the spring 1983 semester
February 1, 1983	Last day for completing application for admission and award to the fall 1983 semester†
April 15, 1983	Last day for completing application for admission to the first 1983 summer session‡
May 15, 1983	Last day for completing application for admission to the second 1983 summer session‡
July 15, 1982	Last day for completing application for admission to the fall 1983 semester

*For 200 level courses, the length of the reading period is at the discretion of the instructor.

†Applications completed after this date may be considered for admission, if all spaces have not been filled, and for financial aid, if funds are still available.

‡Students seeking admission to the Graduate School for study in the summer session should apply to the Dean of the Graduate School and to the Director of the Summer Session.



Advanced Degree Programs

Anatomy

Professor J. David Robertson, M.D. (Harvard), Ph.D. (Massachusetts Inst. of Tech.), *James B. Duke Professor of Anatomy and Chairman*

Professor Sheila J. Counce, Ph.D. (Univ. of Edinburgh), *Director of Graduate Studies*

Professor Emeritus

John Wendell Everett, Ph.D. (Yale)

Associate Professor Emeritus

Kenneth Lindsay Duke, Ph.D. (Duke)

Professors

Matt Cartmill, Ph.D. (Chicago); William Hylander, Ph.D. (Chicago); Montrose J. Moses, Ph.D. (Columbia), *R. J. Reynolds Industries Professor in Medical Education in the Department of Anatomy*; R. Bruce Nicklas, Ph.D. (Columbia); Elwyn L. Simons, Ph.D. (Princeton), D.Phil. (University Coll., Oxford)

Associate Professors

Joseph M. Corless, M.D., Ph.D. (Duke); Harold Erickson, Ph.D. (Johns Hopkins); William C. Hall, Ph.D. (Duke); Richard F. Kay, Ph.D. (Yale); William Longley, Ph.D. (London); Michael K. Reedy, M.D. (Washington)

Assistant Professors

Nell Cant, Ph.D. (Michigan); Martin Joseph Costello III, Ph.D. (Duke); Eric L. Effmann, M.D. (Indiana Univ. School of Med.); Emma Raff Jakoi, Ph.D. (Duke); Chia-Sheng Lin, Ph.D. (Vanderbilt); Ross D. E. MacPhee, Ph.D. (Alberta); Richard B. Marchase, Ph.D. (Johns Hopkins); Thomas J. McIntosh, Ph.D. (Carnegie-Mellon); Frederick H. Schachat, Ph.D. (Stanford); Kathleen P. Smith, Ph.D. (Harvard); Lee Tyrey, Ph.D. (Illinois)

Assistant Medical Research Professors

Hie Ping Beall, Ph.D. (Tulane); Kenneth A. Taylor, Ph.D. (California at Berkeley)

Lecturer

Irving T. Diamond, Ph.D. (Chicago)

The Department of Anatomy offers graduate programs designed to produce teachers and research workers competent in a broad range of anatomical sciences;

the Ph.D. degree is offered. Students with a wide variety of backgrounds and interests in the biological sciences can be accommodated. All students participate in a core of anatomical science courses (Anatomy 305, 307, 309) and gain experience in teaching over the range of departmental interests. Students are encouraged to round out their formal course work by drawing upon the offerings of other departments in the University, as well as those in the anatomy department. Laboratories within the department are equipped for and actively support research in several areas. For further information contact the Director of Graduate Studies.

Courses of Instruction

216S. Biological Psychology
 217. Structure and Function of Visual Photoreceptors
 219. Molecular and Cellular Bases of Differentiation
 219S. Seminar
 220. Developmental Biology
 246. The Primate Fossil Record
 259. Molecular Biology I: Protein and Membrane Structure/Function
 260S. Interactions of Differentiated Cells
 269. Advanced Cell Biology
 270. Neurobiology I
 286. Modern Optical Methods in Biological Research
 301. Anatomy of the Limbs
 302. Advanced Topics and Research Seminar in Smooth and Striated Muscle

305. Gross Human Anatomy
 307. Microscopic Anatomy
 309. Neuroanatomy
 311. Concepts in Cell Biology
 312. Research
 313, 314. Anatomy Seminar
 340. Tutorial in Advanced Anatomy
 354. Research Techniques in Anatomy
 418. Reproductive Biology
 424. Seminar in Reproductive Biology

Courses Currently Unscheduled

238. Functional and Evolutionary Morphology of Primates
 288S. The Cell in Development and Heredity

Anthropology

Professor Richard G. Fox, Ph.D. (Michigan), *Chairman*
 Associate Professor Naomi R. Quinn, Ph.D. (Stanford), *Director of Graduate Studies*

Professor Emeritus

Weston LaBarre, Ph.D. (Yale), *James B. Duke Professor Emeritus of Anthropology*

Professors

Ernestine Friedl, Ph.D. (Columbia), *James B. Duke Professor of Anthropology*; William M. O'Barr, Ph.D. (Northwestern); Elwyn L. Simons, Ph.D. (Princeton), D.Phil. (University Coll., Oxford)

Associate Professors

Mahadev L. Apte, Ph.D. (Wisconsin); Matt Cartmill, Ph.D. (Chicago); Kenneth E. Glander, Ph.D. (Chicago); William Hylander, Ph.D. (Chicago); Carol A. Smith, Ph.D. (Stanford)

Adjunct Associate Professor

Richard F. Kay, Ph.D. (Yale); Carol Stack, Ph.D. (Illinois)

Assistant Professors

Virginia R. Domínguez, Ph.D. (Yale); Atwood D. Gaines, Ph.D. (California at Berkeley); W. Patricia R. Pessar, Ph.D. (Chicago); Robert P. Weller, Ph.D. (Johns Hopkins); Allen Zagarell, Ph.D. (Freie Univ., West Berlin)

The department offers graduate work leading to the Ph.D. degree in anthropology. Admission to the program is not contingent on previous anthropological course work or any other specific program of study at the undergraduate level.

The department offers a program of specialization in social/cultural anthropology and a program of specialization in physical anthropology. The emphasis of the social/cultural anthropology program is the application of a theoretical and

comparative perspective to research in complex societies. Within this perspective, a wide range of interests is represented in the department. The emphasis of the physical anthropology program is primate evolution; areas of concentration include comparative morphology of human and nonhuman primates and primate social behavior.

Curriculum is tailored to the individual student's background, academic needs, and research goals; pursuit of relevant cross-disciplinary study, within and outside the department, is expected. However, a modest number of courses is required of students in both programs. Candidates for the Ph.D. degree must demonstrate competence in their chosen subfield of specialization and knowledge of the broad theoretical perspectives, from all relevant disciplines, which inform their area of concentration.

Further details of the graduate program in anthropology, the departmental facilities, the staff, and various stipends available are described in the *Guidelines for Graduate Students in Anthropology* which may be obtained from the Director of Graduate Studies, Department of Anthropology.

Courses of Instruction

- | | |
|--|---|
| 211S. Ethnography of Communication | 256. Topics in Psychological Anthropology |
| 234S. Political Economy of Development:
Theories of Change in the Third World | 258S. Symbols in Society |
| 239. Culture and Ideology | 267. Cognitive Anthropology |
| 241. The Rise of Civilization in Mesopotamia and
Iran | 273S. Precapitalist Modes of Production and
Exchange |
| 243S. Theory and Method in Archaeology | 274S. Inequality in Peripheral Capitalist Societies |
| 244S. Primate Behavior | 275S. Inequality in Precapitalist Societies |
| 246. The Primate Fossil Record | 280S, 281S. Seminar in Selected Topics |
| 251. Ethnography of Humor | 282S. Canada |
| 255. Ethnopsychiatry, Ethnomedicine, and
Cross-Cultural Psychiatry | 330S, 331S. Seminar in Anthropology |
| | 334. Topics in Physical Anthropology |
| | 393. Individual Research in Anthropology |

Art

Professor John R. Spencer, Ph.D. (Yale), *Director of Graduate Studies*

Professor Emeritus

Sidney David Markman, Ph.D. (Columbia)

Associate Professor

Rona Goffen, Ph.D. (Columbia)

Assistant Professors

Caroline A. Bruzelius, Ph.D. (Yale); Ann Epstein, Ph.D. (Univ. of London); Duncan T. Kinkead, Ph.D. (Michigan), *Andrew W. Mellon Assistant Professor of Art*; Michael E. Shapiro, Ph.D. (Harvard)

Graduate work in the Department of Art is offered leading to the A.M. degree in art history and is designed to provide basic training in the history of art with specialization in a given field selected by the student after consultation with and approval of the Director of Graduate Studies. Prospective students should present a minimum of 24 semester hours of undergraduate work in the history of art. In special cases a student who does not fulfill this prerequisite may be required to attend prescribed undergraduate courses. A reading knowledge of one foreign language (preferably German) is required; candidates who do not meet this requirement upon admission to the program are expected to do so by the end of their first term in residence.

The program for the A.M. degree in art history consists of 30 units as follows: 12 units in art history; 6 units in an approved minor; 6 units in the major or minor,

or other approved subject; and 6 units in thesis. A written thesis is required. Candidates must also pass written comprehensive examinations testing their knowledge of art history and pertinent bibliographical resources.

Courses of Instruction

220S. Greek Painting
230S. Medieval and Byzantine Art and Architecture
232S. Romanesque and Gothic Art and Architecture
240. Italian Art
242S. Studies in Italian Renaissance Art
253. Spanish Baroque Painting
262S. Problems in Nineteenth-Century Art
257S. Problems in Modern Art

277S. Contemporary Art
293S. Methods in Art History
294, 295. Special Problems in Art History

Courses Currently Unscheduled

279S. Problems in Modern Architecture
281S. Problems in Pre-Columbian Art and Archaeology
282S. Problems in Latin American Art

Asian Languages

The courses are offered as an enrichment for students interested in the South Asian subcontinent and may be taken as a general elective by advanced undergraduate students. No major work is offered in Hindi-Urdu.

Hindi-Urdu 200-201. Special Studies in South Asian Languages

Hindi-Urdu 203. Studies in Commonwealth Literature

For courses in Chinese and Japanese, see *Bulletin of Duke University: Undergraduate Instruction*.

Biochemistry

Professor Robert Hill, Ph.D. (Kansas), *James B. Duke Professor of Biochemistry and Chairman*
Associate Professor Lewis M. Siegel, Ph.D. (Johns Hopkins), *Director of Graduate Studies*

Professors

Irwin Fridovich, Ph.D. (Duke), *James B. Duke Professor of Biochemistry*; Samson R. Gross, Ph.D. (Columbia); Walter R. Guild, Ph.D. (Yale); Henry Kamin, Ph.D. (Duke); Norman Kirshner, Ph.D. (Pennsylvania State); Kenneth S. McCarty, Ph.D. (Columbia); K. V. Rajagopalan, Ph.D. (Univ. of Madras); Robert E. Webster, Ph.D. (Duke)

Associate Professors

Robert Bell, Ph.D. (California at Berkeley); Ronald C. Greene, Ph.D. (California Inst. of Tech.); Bernard Kaufman, Ph.D. (Indiana); William Sanford Lynn, Jr., M.D. (Columbia); Paul L. Modrich, Ph.D. (Stanford); David C. Richardson, Ph.D. (Massachusetts Inst. of Tech.); Harvey J. Sage, Ph.D. (Yale); James B. Sullivan, Ph.D. (Texas)

Assistant Professors

Arno L. Greenleaf, Ph.D. (Harvard); Robert L. Habig, Ph.D. (Purdue); Michael S. Hershfield, M.D. (Pennsylvania); Edward W. Holmes, M.D. (Pennsylvania); Tao-shih Hsieh, Ph.D. (California at Berkeley); Nicholas M. Kredich, M.D. (Michigan); Robert J. Lefkowitz, M.D. (Columbia); P. A. McKee, M.D. (Oklahoma); Salvatore V. Pizzo, M.D., Ph.D. (Duke); Allen D. Roses, M.D. (Pennsylvania); Deborah A. Steege, Ph.D. (Yale); Robert W. Wheat, Ph.D. (Washington Univ.)

Assistant Medical Research Professors

Celia Bonaventura, Ph.D. (Purdue); Joseph Bonaventura, Ph.D. (Texas)

Associates

John Bittikofer, Ph.D. (Purdue); Yasuhiko Nozaki, Ph.D. (Univ. of Tokyo)

Graduate work in the Department of Biochemistry is offered leading to the Ph.D. degree. Preparation for such graduate study may take diverse forms. Undergraduate majors in chemistry, biology, mathematics, or physics are welcome, but adequate preparation in chemistry is essential. Graduate specialization areas include protein structure and function, crystallography of macromolecules, nucleic acid structure and function, lipid biochemistry, membrane structure and function, molecular genetics, enzyme mechanisms, and neurochemistry. The Division of Genetics of the department, in cooperation with the University Program in Genetics, offers biochemistry students the opportunity to pursue advanced research and study to fulfill the requirements for the Ph.D. degree.

Courses of Instruction

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| <p>200. General Biochemistry
209-210. Independent Study
215. Genetic Mechanisms
219. Molecular and Cellular Bases of Differentiation
219S. Seminar
220L. Adaptations of Organisms to the Marine Environment
220S. Adaptations of Organisms to the Marine Environment
222. Structure of Biological Macromolecules
224. Biochemistry of Development and Differentiation
227. Introductory Biochemistry I: Intermediary Metabolism
228. Introductory Biochemistry II: Biological Macromolecules</p> | <p>245L. Macromolecules, Ecology, and Evolution
259. Molecular Biology I: Protein and Membrane Structure/Function
265S, 266S. Seminar
268. Molecular Biology II: Nucleic Acids
276. Comparative and Evolutionary Biochemistry
288. The Carbohydrates and Lipids of Biological Systems
291. Physical Biochemistry
296. Biological Oxidations
297. Intermediary Metabolism
299. Nutrition
345, 346. Biochemistry Seminar</p> |
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Courses Currently Unscheduled

- 219L. Laboratory
286. Current Topics in Immunochemistry

Botany

Professor Richard A. White, Ph.D. (Michigan), *Chairman*

Associate Professor Richard B. Searles, Ph.D. (California at Berkeley), *Director of Graduate Studies*

Professors

Lewis Edward Anderson, Ph.D. (Pennsylvania); Janis Antonovics, Ph.D. (Univ. Coll. of North Wales); Richard T. Barber, Ph.D. (Stanford); John E. Boynton, Ph.D. (California at Davis); William Lewis Culberson, Ph.D. (Wisconsin); Henry Hellmers, Ph.D. (California at Berkeley); Terry W. Johnson, Jr., Ph.D. (Michigan); Aubrey Willard Naylor, Ph.D. (Chicago), *James B. Duke Professor of Botany*; Jane Philpott, Ph.D. (Iowa); Donald E. Stone, Ph.D. (California at Berkeley); Boyd R. Strain, Ph.D. (California at Los Angeles); Robert L. Wilbur, Ph.D. (Michigan)

Adjunct Professor

C. F. Culberson, Ph.D. (Duke)

Associate Professors

Norman L. Christensen, Jr., Ph.D. (California at Santa Barbara); Kenneth R. Knoerr, Ph.D. (Yale); Joseph S. Ramus, Ph.D. (California at Berkeley); James N. Siedow, Ph.D. (Indiana)

Assistant Professor

William H. Schlesinger, Ph.D. (Cornell)

Adjunct Assistant Professor

David T. Patterson, Ph.D. (Duke)

Graduate work in the Department of Botany is offered leading to the A.M. (nonthesis), M.S. (thesis), and Ph.D. degrees. Before undertaking graduate study in botany a student should have had in the undergraduate program at least 12

semester hours of botany beyond an elementary course, and related work in biological sciences. Some work in chemistry and physics will be desirable and, for some phases of botanical study, a necessity. The student's graduate program is planned to provide a broad basic training in the various fields of botany, plus intensive specialization in the field of the research problem.

Courses of Instruction

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| 204L. Marine Microbiology | 260L. Plant Anatomy |
| 209L. Lichenology | 261. Photosynthesis |
| 210L. Bryology | 262S. Contemporary Problems in Plant Anatomy |
| 212L. Phycology | 263L. Tropical Seaweeds |
| 215L. Primary Productivity in the Seas | 265. Physiological Plant Ecology |
| 218. Barrier Island Ecology | 265L. Physiological Plant Ecology |
| 219L. Benthic Marine Algae | 267L. Plant Community Ecology |
| 221L. Mycology | 268. Molecular Biology II: Nucleic Acids |
| 225T, 226T. Special Problems | 269. Advanced Cell Biology |
| 227. Introductory Biochemistry I: Intermediary Metabolism | 272. Ecosystem Analysis |
| 228. Introductory Biochemistry II: Biological Macromolecules | 280. Principles of Genetics |
| 232. Microclimatology | 283. Extrachromosomal Inheritance |
| 233. Microbiology | 285S. Ecological Genetics |
| 242L. Systematics | 286. Evolutionary Mechanisms |
| 243S. Classification of Angiosperms | 293L. Population Biology |
| 244L. Diversity of Plants | 295S, 296S. Seminar |
| 245L. Plant Diversity | 300. Tropical Biology: An Ecological Approach |
| 246L. Ecology of Plants | 330L. Environmental Instrumentation |
| 247L. Plant Ecology | 359, 360. Research in Botany |
| 250L,S. Plant Biosystematics | |
| 251L. Plant Physiology | |
| 253. Biophysical Plant Physiology | |

Courses Currently Unscheduled

258. Physiology of Growth and Development
 344. Micrometeorology and Biometeorology Seminar

Business Administration

Professor Thomas F. Keller, Ph.D. (Michigan), *R. J. Reynolds Industries Professor of Business Administration and Dean*

Professors

Helmy Baligh, Ph.D. (California at Berkeley); Colin C. Blaydon, Ph.D. (Harvard); Kalman J. Cohen, Ph.D. (Carnegie-Mellon); John D. Forsyth, D.B.A. (Illinois); W. Clay Hamner, D.B.A. (Indiana); Dan J. Laughhunn, D.B.A. (Illinois); Arie Y. Lewin, Ph.D. (Carnegie-Mellon); Richard C. Morey, Ph.D. (California at Berkeley); David W. Peterson, Ph.D. (Stanford); W. Kip Viscusi, Ph.D. (Harvard)

Associate Professors

Joseph Battle, Ph.D. (Michigan); Richard M. Burton, D.B.A. (Illinois); Robert Capettini, Ph.D. (Illinois at Urbana-Champaign); David C. Dellinger, Ph.D. (Stanford); David A. Dittman, Ph.D. (Ohio State); Joel C. Huber, Ph.D. (Pennsylvania); John S. Hughes, Ph.D. (Purdue); Roy J. Lewicki, Ph.D. (Columbia); John M. McCann, Ph.D. (Purdue); Wesley A. Magat, Ph.D. (Northwestern); Steven F. Maier, Ph.D. (Stanford); John William Payne, Ph.D. (California at Irvine); Richard J. Rendleman, Jr., Ph.D. (North Carolina at Chapel Hill); Roger W. Schmenner, Ph.D. (Yale); James H. Vander Weide, Ph.D. (Northwestern); James W. Vaupel, Ph.D. (Harvard)

Assistant Professors

Robert M. Conroy, D.B.A. (Indiana); Christine R. Hekman, Ph.D. (Chicago); Kirk R. Karwan, Ph.D. (Carnegie-Mellon); William E. Ricks, Ph.D. (California at Berkeley); Herbert L. Schuette, Ph.D. (Michigan); Blair H. Sheppard, Ph.D. (Illinois at Champaign); Anne S. Tsui, Ph.D. (California at Los Angeles)

The Ph.D. in Business Administration Program prepares candidates for research and teaching careers at leading educational institutions and for careers

in business and governmental organizations where advanced research and analytical capabilities are required. The Ph.D. program places major emphasis on independent inquiry, on the development of competence in research methodology, and on the communication of research results.

The program requires that doctoral candidates must acquire expertise in three disciplines: economics, behavioral science, and quantitative methods. In addition, each candidate must acquire knowledge at the M.B.A. level of at least three of the following functional areas: accounting, finance, marketing, and operations management. Competence in the three disciplines and the functional areas may be gained from the student's choice of course work, participation in seminars, and independent study. Each student takes a comprehensive exam at the end of the second year or the beginning of the third year of residence. The final requirement is the presentation of a dissertation. The Ph.D. program usually requires three to four years of work beyond the bachelor's degree. Students entering the program with an M.B.A. or other advanced work will usually be able to reduce the time in residence by a year.

Refer to the *Bulletin of Duke University: The Fuqua School of Business* for a complete list of courses and course descriptions.

Courses of Instruction

397. Dissertation Research

Courses Currently Unscheduled

309.1-.9. Research in Managerial Economics

319.1-.9. Research in Quantitative Methods

329.1-.9. Research in Organization Theory and Management

339.1-.9. Research in Information and Accounting Systems

349.1-.9. Research in Public Policy and Social Responsibility

359.1-.9. Research in Finance

369.1-.9. Research in Marketing

379.1-.9. Research in Production

392-393. Tutorial in Interdisciplinary Areas

The University Program in Cell and Molecular Biology

Professor Robert L. Hill, Ph.D. (Kansas), *James B. Duke Professor of Biochemistry* and *Director*
Associate Professor Bernard Kaufman, Ph.D. (Indiana), *Associate Director*

Professors

P. K. Lauf, M.D. (Frieburg); R. Bruce Nicklas, Ph.D. (Columbia); Salvatore V. Pizzo, M.D., Ph.D. (Duke); Thomas C. Vanaman, Ph.D. (Duke)

Associate Professors

Paul L. Modrich, Ph.D. (Stanford); James N. Siedow, Ph.D. (Indiana)

Assistant Professors

P. Michael Conn, Ph.D. (Baylor); Richard B. Marchase, Ph.D. (Johns Hopkins)

Faculty: A complete list of faculty, including research interests, will be made available to prospective students.

Research training in cell, developmental, and molecular biology is found in eight departments at Duke University: anatomy, biochemistry, botany, microbiology and immunology, pathology, pharmacology, physiology, and zoology. To effectively utilize this broad spectrum of expertise for the training of promising young scientists while still providing a coherent curriculum, the Duke University Program in Cell and Molecular Biology has been established.

During the first year of doctoral study a student will complete the program's three-course sequence presenting current understanding and research activities in cell biology and the molecular biology of nucleic acids, proteins, and membranes. Each student will also affiliate with a department, fulfill departmental

requirements, and choose elective courses in an area of specialization. Research training is stressed throughout the program and dissertation research usually begins by the third semester. Normally the dissertation adviser will be chosen from within the student's own department but, depending on the student's research interests, dissertation research with an adviser in another department may be approved.

Prospective students may apply directly to the Cell and Molecular Biology Program or to one of the eight participating departments. Those who apply to the program must also designate a departmental preference. Applicants must have demonstrated, in addition to overall academic excellence, a proficiency in the biological and physical sciences. Applications for admission and fellowship support must be received by February 1, but early applications may receive earlier consideration.

Courses of Instruction

259. Molecular Biology I: Protein and Membrane
Structure/Function
264. Cell and Molecular Biology Seminar

268. Molecular Biology II: Nucleic Acids
269. Advanced Cell Biology

Chemistry

Professor Donald B. Chesnut, Ph.D. (California Inst. of Tech.), *Chairman*
Professor Richard A. Palmer, Ph.D. (Illinois), *Director of Graduate Studies*

Professors

Edward M. Arnett, Ph.D. (Pennsylvania), *R. J. Reynolds Professor of Chemistry*; Peter W. Jeffs, Ph.D. (Univ. of Natal); William R. Krigbaum, Ph.D. (Illinois), *James B. Duke Professor of Chemistry*; Charles H. Lochmüller, Ph.D. (Fordham); Andrew T. McPhail, Ph.D. (Univ. of Glasgow); Jacques C. Poirier, Ph.D. (Chicago); Ned Allen Porter, Ph.D. (Harvard); Louis DuBose Quin, Ph.D. (North Carolina at Chapel Hill), *James B. Duke Professor of Chemistry*; Peter Smith, Ph.D. (Univ. of Cambridge); Howard Austin Strobel, Ph.D. (Brown); Richard L. Wells, Ph.D. (Indiana); Pelham Wilder, Jr., Ph.D. (Harvard)

Adjunct Professors

Robert George Ghirardelli, Ph.D. (California Inst. of Tech.); Colin G. Pitt, Ph.D. (Univ. of London); Bernard Spielvogel, Ph.D. (Michigan)

Associate Professors

Steven Baldwin, Ph.D. (California Inst. of Tech.); Alvin L. Crumbliss, Ph.D. (Northwestern); Robert W. Henkins, Ph.D. (Yale)

Assistant Professors

C. William Anderson, Ph.D. (Cincinnati); William L. Luken, Jr., Ph.D. (Yale); Barbara R. Shaw, Ph.D. (Washington); Daniel D. Sternbach, Ph.D. (Brandeis)

Adjunct Assistant Professors

Santosh K. Gangwal, Ph.D. (Univ. of Waterloo); Mary Ellen Switzer, Ph.D. (Illinois)

In the Department of Chemistry graduate work is offered leading to the A.M. and Ph.D. degrees. Before undertaking a graduate program in chemistry, a student should have taken an undergraduate major in chemistry, along with related work in mathematics and physics.

Graduate courses in the department are offered in the fields of analytical, inorganic, organic, and physical chemistry. Research programs are active in all these fields.

A booklet providing detailed information on the department is available from the Director of Graduate Studies.

Courses of Instruction

- | | |
|---|---|
| 201. Molecular Spectroscopy | 313. Special Topics in Inorganic Chemistry |
| 203. Quantum Chemistry | 320. Synthetic Organic Chemistry |
| 205. Structure and Reaction Dynamics | 322. Organic Reactive Intermediates |
| 207. Principles of Thermodynamics, Diffraction,
and Kinetics | 324. Special Topics in Organic Chemistry |
| 275, 276. Advanced Studies | 330. Separation Science and Fundamental
Electrochemistry |
| 300. Basic Statistical Mechanics | 331, 332. Special Topics in Analytical Chemistry |
| 302. Basic Quantum Mechanics | 334. Chemical Instrumentation and Practical
Electrochemistry |
| 303, 304. Special Topics in Physical Chemistry | 373, 374. Seminar |
| 310. Theoretical and Structural Inorganic
Chemistry | 375, 376. Research |
| 312. Inorganic Reactions and Mechanisms | 377. Research Orientation Seminar |

Classical Studies

Professor Francis Newton, Ph.D. (North Carolina at Chapel Hill), *Chairman*
Associate Professor Peter Burian, Ph.D. (Princeton), *Director of Graduate Studies*

Professors

John F. Oates, Ph.D. (Yale); Lawrence Richardson, Jr., Ph.D. (Yale), F.A.A.R., *James B. Duke Professor of Latin in Classical Studies*; William H. Willis, Ph.D. (Yale)

Associate Professors

Kent J. Rigsby, Society of Fellows (Harvard); Dennis Keith Stanley, Jr., Ph.D. (Johns Hopkins); John G. Younger, Ph.D. (Cincinnati)

Assistant Professor

Mary T. Boatwright, Ph.D. (Michigan), *Andrew W. Mellon Assistant Professor of Classical Studies*

The Department of Classical Studies offers two programs leading to the Ph.D. degree, one with emphasis on literature and philology, the other with emphasis on ancient history and archaeology. For regular admission to the program in literature and philology, a student must have three years of college study above the elementary level in one of the classical languages and two college years in the other. Students wishing to enter the program in ancient history and archaeology will be required on entrance to demonstrate satisfactory competence in both Greek and Latin for reading in the primary sources; failure to demonstrate such competence will require modification of the student's program to repair the deficiency.

The department's special requirements, in addition to the general requirements of the University for the Ph.D. degree set forth in the section on degree requirements of this bulletin and in the large *Bulletin of Duke University: Graduate School*, are presented in a sheet that may be obtained from the Director of Graduate Studies. They include special requirements in course work and the preliminary examination for the Ph.D. degree.

A reading knowledge of German and French is required of all candidates for the Ph.D. degree. The candidate should meet one of the language requirements by the end of the first term in residence and the other by the end of the third term.

Greek

Courses of Instruction

- | | |
|------------------------|------------------------------------|
| 200. Graduate Reading | 210. Aristophanes |
| 203. Homer | 226. Orators |
| 205. Greek Lyric Poets | 301. Greek Seminar I |
| 206. Aeschylus | 302. Greek Seminar II |
| 209. Euripides | 399. Directed Reading and Research |

Courses Currently Unscheduled

- 221. Early Greek Prose
- 222. Thucydides
- 231. Hellenistic Poetry
- 303. Greek Seminar III
- 304. Greek Seminar IV
- 313. Proseminar in Greek Epigraphy
- 321. Seminar in Literary Papyri

Latin

Courses of Instruction

- 200. Graduate Reading
- 201. The Verse Treatise
- 203. Epic: Vergil
- 211. Elegiac Poets
- 221. Medieval Latin
- 301. Latin Seminar I
- 302. Latin Seminar II
- 312. Proseminar in Latin Paleography
- 399. Directed Reading and Research

Courses Currently Unscheduled

- 204. Epic
- 210. Lyric and Occasional Poetry
- 303. Latin Seminar III
- 304. Latin Seminar IV
- 306. Latin Seminar VI
- 314. Proseminar in Latin Epigraphy
- 315. Proseminar in Roman Law

Classical Studies

Courses of Instruction

- 301. Introduction to Classical Philology I

Courses Currently Unscheduled

- 302. Introduction to Classical Philology II
- 351. The Teaching of Classics

Classical Studies (Ancient History)

Courses of Instruction

- 253. Greece to the Orientalizing Period
- 321. Seminar in Ancient History I
- 322. Seminar in Ancient History II
- 399. Directed Reading and Research

Courses Currently Unscheduled

- 255. The Age of Pericles
- 258. Social and Cultural History of the Graeco-Roman World
- 261. The Roman Revolution, 146-30 B.C.
- 323. Seminar in Ancient History III
- 324. Seminar in Ancient History IV
- 327. Seminar in Byzantine History

Classical Studies (Archaeology)

Courses of Instruction

- 231S. Greek Sculpture
- 232S. Greek Painting
- 233. Greek Architecture
- 234. Roman Sculpture
- 235S. Roman Architecture
- 236S. Roman Painting
- 312. Archaeology Seminar II

Courses Currently Unscheduled

- 311. Archaeology Seminar I

Under the terms of a cooperative agreement, graduate students of Duke University may take any graduate course offered by the Department of Classics of the University of North Carolina. A list of these courses will be sent upon request.

Comparative Literature

No graduate degree is offered in comparative literature. The following courses may serve, however, in the minor programs of students in other departments. Consult Professor Rolleston in the Department of Germanic Languages and Literature.

- 220S. Comparative Literature Seminar
- 280. Literary Criticism
- 399. Special Readings

Computer Science

Professor Merrell L. Patrick, Ph.D. (Carnegie Inst. of Tech.), *Chairman*

Associate Professor Alan W. Biermann, Ph.D. (California at Berkeley), *Director of Graduate Studies*

Professors

Thomas M. Gallie, Ph.D. (Rice); Donald W. Loveland, Ph.D. (New York Univ.); Peter N. Marinos, Ph.D. (North Carolina State); Arnold L. Rosenberg, Ph.D. (Harvard); Charles Starmer, Ph.D.

(North Carolina at Chapel Hill); Senol Utku, Sc.D. (Massachusetts Inst. of Tech.); Max A. Woodbury, Ph.D. (Michigan)

Associate Professors

Kishor S. Trivedi, Ph.D. (Illinois); Robert A. Wagner, Ph.D. (Carnegie-Mellon)

Assistant Professors

Bruce W. Ballard, Ph.D. (Duke); Robert M. Geist III, Ph.D. (Notre Dame); Connie U. Smith, Ph.D. (Texas)

Assistant Research Professor

Kevin W. Bowyer, Ph.D. (Duke)

The Department of Computer Science offers programs leading to the A.M. and Ph.D. degrees. The Ph.D. program is a joint offering with the Computer Science Department of the University of North Carolina at Chapel Hill.

A student entering graduate work in computer science should have a knowledge of mathematics through advanced calculus, of data structures, and of assembler as well as higher level computer programming languages. Research interests of present faculty include mathematical foundations of computer science, artificial intelligence, analysis of algorithms, programming methodology, real-time computing, operating data base systems, computer systems design and analysis, parallel processing systems, numerical analysis, and very large-scale integration.

Courses of Instruction

- 200. Programming Methodology I
- 201. Programming Languages
- 204. Computer Network Architecture
- 207. Fault-Tolerant Computer Systems
- 208. Digital Computer Design
- 209. Microprocessor Fundamentals and Applications
- 210. Introduction to VLSI Systems
- 215. Artificial Intelligence
- 221. Numerical Analysis I
- 222. Numerical Analysis II
- 224. Logic and Algorithms
- 225. Formal Languages and Theory of Computation
- 226. Mathematical Methods for Systems Analysis I
- 227. Mathematical Methods for Systems Analysis II
- 231. Introduction to Operating Systems
- 232. Compiler Construction
- 241. Data Base Methodology
- 252. Computer Systems Organization
- 265. Advanced Topics in Computer Science

- 308. Advanced Topics in Digital Systems
- 315. Advanced Artificial Intelligence
- 326. Systems Modeling
- 331. Operating Systems Theory

Courses Currently Unscheduled

- 301. Topics in Programming Theory
- 321. Topics in Numerical Mathematics
- 325. Theory of Computation
- 332. Topics in Operating Systems

Supplementary Courses Offered at UNC-CH

- Comp 114. Systematic Programming
- Comp 145. Software Engineering Laboratory
- Comp 171. Natural Language Processing
- Comp 230. File Management Systems
- Comp 236. Computer Graphics
- Comp 254. Picture Processing and Pattern Recognition
- Comp 265. Architecture of Computers

Economics

Professor Thomas D. Wallace, Ph.D. (Chicago), *James B. Duke Professor of Economics and Chairman*
Professor Thomas Herbert Naylor, Ph.D. (Tulane), *Director of Graduate Studies*

Professors

Martin Bronfenbrenner, Ph.D. (Chicago), *William R. Kenan, Jr. Professor of Economics*; David George Davies, Ph.D. (California at Los Angeles); Craufurd David Goodwin, Ph.D. (Duke), *James B. Duke Professor of Economics*; Henry Grabowski, Ph.D. (Princeton); Daniel A. Graham, Ph.D. (Duke); Thomas M. Havrilesky, Ph.D. (Illinois); Allen C. Kelley, Ph.D. (Stanford); Harold Gregg Lewis, Ph.D. (Chicago); Edward Tower, Ph.D. (Harvard); Vladimir G. Trembl, Ph.D. (North Carolina at

Chapel Hill); John M. Vernon, Ph.D. (Massachusetts Inst. of Tech.); Eliot Roy Weintraub, Ph.D. (Pennsylvania); William Poe Yohe, Ph.D. (Michigan)

Associate Professors

Charles T. Clotfelter, Ph.D. (Harvard); Philip J. Cook, Ph.D. (California at Berkeley); Stefano Fenoaltea, Ph.D. (Harvard); Marjorie McElroy, Ph.D. (Northwestern)

Assistant Professors

Robert Franklin Conrad, Ph.D. (Wisconsin); Kent P. Kimbrough, Ph.D. (Chicago); Michael I. Luger, Ph.D. (California at Berkeley); David Bruce Nickerson, Ph.D. (Northwestern); George E. Tauchen, Ph.D. (Minnesota)

The Department of Economics offers graduate work leading to the A.M. and Ph.D. degrees. Among the undergraduate courses of distinct advantage to the graduate student in economics are statistics, economic theory, and basic courses in philosophy, mathematics, and social sciences other than economics. Advanced work in mathematics or statistics is also useful.

Requirements for the Ph.D. degree in economics include courses in economic theory, quantitative methods, and econometrics in the first year, and at the end of the second year, an examination in economic analysis. In addition, a student must obtain certification in three fields, one of which may be in an outside minor. The student may select from advanced economic theory, history of political economy, economic development, economic history, international economics, money and banking, labor economics, public finance, industrial organization, econometrics, statistics, Soviet economics, corporate economics, and certain fields outside the economics department (e.g., demography). Course work for the Ph.D. degree should be completed in five semesters of residence.

Courses of Instruction

200. Capitalism and Socialism
204S. Advanced Monetary Economics
205S. Advanced Monetary Theory and Policy
212S. Economic Science and Economic Policy
219. Economic Problems of Underdeveloped Areas
232S. Economic History of Japan
233. State and Urban Finance
234. Urban and Regional Economics
235. The Economics of Crime, Law Enforcement, and Justice
237. Statistical Methods
243. Econometrics I
244. Corporate Economics I
245. Econometrics II
246. Selected Topics in Econometric Theory
250. Post-Keynesian Economic Thought
265S. International Trade and Finance
285. Evaluation of Public Expenditures
287. Public Finance
293. Soviet Economic History
294S. Soviet Economic System
301. Microeconomic Analysis I
302. Microeconomic Analysis II
304, 305. Monetary Theory and Policy
307. Quantitative Analysis I
308. Quantitative Analysis II
311, 312. History of Political Economy
313, 314. Seminar in Economic Theory
316. Seminar in Economics of Soviet-Type Socialism
319. Seminar in the Theory and the Problems of Economic Growth and Change

320. Macroeconomic Analysis I
322. Macroeconomic Analysis II
329. Federal Finance
330. Seminar in Public Finance
355. Seminar in Labor Economics
358. Seminar in Labor Market and Related Analysis
365. Seminar in International Trade Theory
366. Seminar in International Monetary Theory
388. Industrial Organization
389. Seminar in Industrial and Governmental Problems
397, 398. Directed Research

Courses Currently Unscheduled

231S. Analytical Economic History
247. Corporate Economics II
282S. Canada
303. Theory of Economic Decision Making
317. Seminar in Demographic, Population, and Resource Problems
318. Dissertation Seminar
321. Theory of Quantitative Economic Policy
323. Income Distribution Theory
331. Seminar in Economic History
345, 346. Demographic Techniques I and II
350. Seminar in Applied Economics
401. Seminar on the British Commonwealth
402. Interdisciplinary Seminar in the History of the Social Sciences

Related Courses in Other Departments

Courses in related fields may be selected from anthropology, computer science, forestry, history, mathematics, philosophy, political science, public policy studies, and sociology, or from an area that complements the candidate's area of research interests in economics.

See Program in Comparative Studies on Southern Asia and the Center for Demographic Studies in the section on special programs for further information.

Education

Associate Professor Lucy T. Davis, Ed.D. (Columbia), *Chairman*

Associate Professor David V. Martin, Ed.D. (Duke), *Director of Graduate Studies*

Professor Emeritus

William H. Cartwright, Ph.D. (Minnesota)

Professors

W. Scott Gehman, Jr., Ph.D. (Pennsylvania State); Ellis B. Page, Ed.D. (California at Los Angeles)

Associate Professors

Robert H. Ballantyne, Ed.D. (Washington State); Peter F. Carbone, Ed.D. (Harvard); Joseph Di Bona, Ph.D. (California at Berkeley); Charles B. Johnson, Ed.D. (Duke); Robert A. Pittillo, Jr., Ed.D. (Duke); Robert N. Sawyer, Ed.D. (Wyoming)

Assistant Professors

Mary E. Mayesky, Ph.D. (Wayne State); Michael L. Michlin, Ph.D. (Minnesota)

Lecturer

John A. Fowler, M.D. (Bowman Gray)

Qualified juniors, seniors, and graduate students may enroll in appropriate education courses as electives. Further information may be obtained from the Director of Graduate Studies.

Courses of Instruction

- | | |
|---|---|
| 201. Mathematics Program in the Elementary School | 236. Teaching Developmental and Remedial Reading in the Secondary School |
| 203. Seminar in Philosophical Analysis of Educational Concepts | 237. Teaching of Literature in Secondary Schools |
| 205. Selected Topics | 239. Teaching of Grammar, Composition, Mechanics, and Usage in Secondary School |
| 206. Studies in the History of Educational Philosophy | 240. Occupational Psychology |
| 211. Education and the Mass Media | 241. Counseling Psychology |
| 213. Elementary School Organization and Administration | 242. Group Counseling |
| 215S. Secondary Education: Principles | 246. Teaching of Mathematics |
| 216. Secondary Education: Internship | 248. Practicum in Counseling |
| 217. The Psychological Principles of Education | 249. Exceptional Children |
| 218. Education in Developing Countries | 255. Assessment of Abilities |
| 222. New Developments in Elementary School Curriculum | 258. Assessment of Personality, Interests, and Attitudes |
| 225. The Teaching of History and the Social Studies | 260. Educational Research I |
| 226. Teaching Developmental and Remedial Reading in the Elementary School | 261. Educational Research II |
| 232. Psychoeducational Counseling with Families | 262. Educational Research III |
| 234. Secondary School Organization and Administration | 267. Energy Use in Educational Facilities |
| | 268S. Seminar in Contemporary Educational Criticism |
| | 276. Teaching of High School Science |
| | 277. Student Personnel Services in Higher Education |

- 300. Individual Assessment of Intelligence
- 301. Advanced Individual Assessment of Cognitive Abilities
- 302. Seminar in Educational Research
- 303. Diagnostic and Educational Programs in Learning Disabilities
- 304. Internship in School Psychology
- 305. Personality Assessment: Projective Techniques
- 309. Seminar on Higher Education in the United States
- 313. Seminar in Education and Public Policy
- 321. Educational Management
- 322. Planning and Management of Educational Facilities
- 323. Public School Finance
- 325. Psychology of Personality Growth and Development
- 327. Theories of Counseling and Psychotherapy
- 335, 336. Seminar in School Administration
- 339. Seminar in Curriculum
- 342. Seminar in Secondary School Curriculum
- 348, 349. Seminar in Child Psychopathology
- 350, 351. Directed Activities in Education
- 357. Directed Research
- 210. The Politics of Education
- 230. Research Methods in Education
- 250, 251. Teaching Emotionally Disturbed Children: Internship
- 270. Junior and Community College
- 271. Instructional Systems for College and University Teaching
- 273, 274. Clinical Reading Practicum
- 307. Psychological Techniques of Counseling
- 337. Seminar in Higher Educational Administration
- 314. Seminar in Guidance and Counseling
- 315. Seminar in Secondary School Teaching
- 316, 317. Practicum in Higher Educational Research and Development
- 326. Educational Psychology: The Problem Child
- 332. Supervision of Instruction
- 337. Seminar in Community College Organization
- 338. Seminar in Educational Supervision
- 340. Seminar in Social Studies Curriculum
- 341. Seminar in Elementary School Curriculum
- 343. History of Higher Education in America
- 344. Research in Higher Education
- 345. Seminar in Reading Instruction and Research
- 346. Seminar in Organization of Preservice and Inservice Reading Programs
- 360. Seminar on Instructional Strategies

Courses Currently Unscheduled

- 202. Education in Industrialized Nations
- 209S. John Dewey

Engineering

The School of Engineering offers programs of study and research leading to the M.S. and Ph.D. degrees with a major in biomedical, civil and environmental, or electrical engineering, or in mechanical engineering and materials science. These programs are designed to provide a fundamental understanding of the engineering sciences, which are based on mathematics and the physical sciences, and to develop experience in the art of engineering, which includes strong elements of intuition, imagination, and judgment. Engineering graduate students may participate in seminars appropriate to their fields of study.

A *minimum* of 30 units of earned graduate credit beyond the bachelor's degree is required for the M.S. degree: 12 in the major, 6 in related minor work (usually mathematics or natural science), 6 in either the major or minor subject or in other areas approved by the major department, and 6 for a research-based thesis. A nonthesis option requiring 30 units of course credit is available. Each of the departments imposes additional requirements in the exercise of this option. There is no language requirement for this degree.

A *minimum* of 60 units of earned graduate credit beyond the bachelor's degree is required for the Ph.D. degree. In civil and electrical engineering, 24 units are required in the major field and 12 units in a related minor field (often mathematics or natural science), 12 in either the major or minor subject or other areas approved by the major department, and 12 for a research-based dissertation. In biomedical and mechanical engineering there are no specific course requirements; each program is planned to meet individual needs. Doctoral students are required to pass qualifying and preliminary examinations which may be either written, oral, or a combination of written and oral components, at the discretion of the committee and the department.

Biomedical Engineering

Professor Howard G. Clark, Ph.D. (Maryland), *Chairman*
Professor Roger Barr, Ph.D. (Duke), *Director of Graduate Studies*

Professors

William E. Hammond, Ph.D. (Duke); Robert M. Hochmuth, Ph.D. (Brown); James M. McElhaney, Ph.D. (West Virginia); Loren Nolte, Ph.D. (Michigan); Theo C. Pilkington, Ph.D. (Duke); Frederick L. Thurstone, Ph.D. (North Carolina State); Myron Wolbarsht, Ph.D. (Johns Hopkins)

Associate Professors

Donald S. Burdick, Ph.D. (Princeton); Olaf T. von Ramm, Ph.D. (Duke); Howard C. Wachtel, Ph.D. (New York Univ.)

Biomedical engineering is often defined as the application of the concepts and methods of the physical, mathematical, and engineering sciences to biology and medicine. The definition covers a broad spectrum ranging from formalized mathematical theory through experimental science to practical clinical applications. The purpose of the graduate program in biomedical engineering is to encourage the optimum combining of engineering and biomedical course work with an interdisciplinary research topic so that the graduates of this program can contribute at the most advanced professional level to the interdisciplinary field of biomedical engineering. The major research areas available include: biomechanics, biomedical materials, biomedical modeling, data acquisition and processing, and electrophysiology.

Courses of Instruction

- 202. Biomedical Transfer Processes
- 204. Measurement and Control of Cardiac Electrical Events
- 205, 206. Microprocessors and Digital Instruments
- 215. Biomedical Materials and Artificial Organs
- 230. Biomechanics
- 243. Computers in Biomedical Engineering
- 265. Advanced Topics in Biomedical Engineering

- 333. Biomedical Imaging
- 399. Special Readings in Biomedical Engineering

Courses Currently Unscheduled

- 201. Analysis of Bioelectric Phenomena
- 207. Experimental Mechanics
- 221. Electrophysiological Techniques
- 311. Inverse Models

Civil and Environmental Engineering

Professor Robert J. Melosh, Ph.D. (Washington), *Chairman*
Associate Professor Henry J. Petroski, Ph.D. (Illinois), *Director of Graduate Studies*

Professors

Bruce J. Muga, Ph.D. (Illinois); Senol Utku, Sc.D. (Massachusetts Inst. of Tech.); P. Aarne Vesilind, Ph.D. (North Carolina at Chapel Hill); James F. Wilson, Ph.D. (Ohio State)

Adjunct Professor

Edward A. Saibel, Ph.D. (Massachusetts Inst. of Tech.)

Associate Professor

Miguel A. Medina, Jr., Ph.D. (Florida)

Assistant Professors

Eric I. Pas, Ph.D. (Northwestern); J. Jeffrey Peirce, Ph.D. (Wisconsin); Kenneth H. Reckhow, Ph.D. (Harvard)

A student may specialize in one of the following fields of study for either the M.S. or the Ph.D. degree: environmental engineering; geotechnical engineering and soil mechanics; mechanics of solids; materials engineering; fluid mechanics,

water resources, and ocean engineering; structural engineering; and urban systems and transportation. Interdisciplinary programs combining study in some of the major areas with biological sciences, business administration, materials science, social sciences, political science, public policy studies, and other areas of engineering are also available.

With the approval of the department, a master's degree candidate in civil engineering may choose, in lieu of submitting a thesis, to complete an additional 6 units of course work plus a special project. If this alternative is elected, candidates are expected to take comprehensive examinations over their graduate course work, and also to defend orally their special projects.

Under the Reciprocal Agreement with Neighboring Universities, a student may include as a portion of the minimum requirements work offered by the Department of Environmental Sciences and Engineering of the University of North Carolina. Although related work normally is taken in the natural sciences or mathematics, a student whose major interest relates to the social or managerial sciences may take relevant work in these areas.

Courses of Instruction

201. Advanced Mechanics of Solids
 204. Plates and Shells
 205. Elasticity
 212. Mechanical Behavior of Materials
 215. Urban and Regional Systems Analysis
 216. Transportation Planning and Policy Analysis
 217. Transportation Systems Analysis
 225. Engineering Hydrology
 226. Operational Hydrology
 232. Reinforced Concrete Design
 233. Prestressed Concrete Design
 235. Foundation Engineering
 236. Earth Structures
 238. Rock Mechanics
 239. Physical Properties of Soils
 241. Environmental Engineering Chemistry and Biology
 243. Unit Operations in Sanitary Engineering
 245. Pollutant Transport Systems
 246. Sanitary Engineering Design
 248. Solid Waste and Resource Recovery Engineering
 249. Control of Hazardous and Toxic Waste
 251. Systematic Structural Analysis I
 254. Applications of Finite Element Analysis

258. Analysis of Nonlinear Behavior of Structures
 265. Advanced Topics in Civil Engineering
 280. Engineering Aspects of Physical Oceanography
 281. Experimental System Engineering
 282. Port, Harbor, and Coastal Engineering
 283. Ocean System Dynamics
 399. Special Readings in Civil Engineering

Courses Currently Unscheduled

202. Advanced Mechanics of Solids II
 210. Intermediate Dynamics
 218. Engineering—Economic Analysis
 221. Incompressible Fluid Flow
 222. Open Channel Flow
 223. Flow Through Porous Media
 231. Structural Engineering Analysis
 234. Advanced Structural Design in Metals
 247. Air Pollution Control
 306. Plasticity
 336. Advanced Soil Mechanics
 337. Elements of Soil Dynamics
 350. Advanced Engineering Analysis

Electrical Engineering

Professor H. Craig Casey, Jr., Ph.D. (Stanford), *Chairman*

Professor Peter N. Marinos, Ph.D. (North Carolina State), *Director of Graduate Studies*

Professors

Richard B. Fair, Ph.D. (Duke); William Thomas Joines, Ph.D. (Duke); Robert Blackburn Kerr, Ph.D. (Johns Hopkins); Loren W. Nolte, Ph.D. (Michigan); Harry Ashton Owen, Jr., Ph.D. (North Carolina State); Theo C. Pilkington, Ph.D. (Duke); Paul P. Wang, Ph.D. (Ohio State); Thomas George Wilson, Sc.D. (Harvard)

Associate Professors

Herbert Hacker, Ph.D. (Michigan); Kishor S. Trivedi, Ph.D. (Illinois)

Assistant Professors

Christopher R. Carroll, Ph.D. (Calif. Inst. of Tech.); Rhett Truesdale George, Jr., Ph.D. (Florida)

A student may specialize in any one of the following fields in working toward either the M.S. or the Ph.D. degree with a major in electrical engineering: computer-aided design, computer engineering, detection and estimation theory, digital signal processing, electromagnetic fields and microwaves, integrated circuit design and fabrication, microprocessor systems, robotics and control systems, solid-state devices and materials, solid-state power conditioning, and VLSI circuit design.

Recommended prerequisites for the graduate courses in electrical engineering include a knowledge of basic mathematics and physics, electric networks, and system theory. Students in doubt about their background for enrollment in specific courses should discuss the matter with the Director of Graduate Studies. The M.S. degree program includes either a thesis or an oral comprehensive examination. A qualifying examination is required for the Ph.D. degree program. These examinations are intended to test both the breadth and depth of the student's understanding of electrical engineering. There is no foreign language requirement.

Courses of Instruction

- | | |
|---|---|
| 202. System Modeling and Computation | 237, 238. Advanced Power Electronics Laboratory and Seminar |
| 203. Random Signals and Noise | 241. Linear Systems |
| 204. Computer Network Architecture | 242. Modern Control and Dynamic Systems |
| 205. Signal Detection and Extraction Theory | 250. Introduction to Robotics |
| 206. Digital Signal Processing | 251. Pattern Classification and Recognition |
| 207. Fault-Tolerant Computer Systems | 252. Computer Systems Organization |
| 208. Digital Computer Design | 265. Advanced Topics in Electrical Engineering |
| 209. Microprocessor Fundamentals and Applications | 271. Electromagnetic Theory |
| 210. Introduction to VLSI Systems | 272. Application of Electromagnetic Theory |
| 211. Quantum Mechanics | 302. Applied Information Theory and Statistical Estimation |
| 213. Modern Optics | 305. Advanced Topics in Signal Processing |
| 214. Introduction to Solid-State Physics | 308. Advanced Topics in Digital Systems |
| 215. Semiconductor Physics | 310. Advanced VLSI Design |
| 216. Devices and Processing for Integrated Circuits | 324. Nonlinear Oscillations in Physical Systems |
| 217. Lasers | 342. Optimal Control Theory |
| 218. Integrated Circuit Engineering | 371. Advanced Electromagnetic Theory |
| 222. Nonlinear Analysis | 399. Special Readings in Electrical Engineering |
| 224. Advanced Electronic Circuits | |
| 226. Modeling and Computer-Aided Analysis of Electronic Systems | |
| 234. Power Electronics: High-Power Circuits | |
| 235. Nonlinear Magnetic and Semiconductor Power Converters: Design and Control I | |
| 236. Nonlinear Magnetic and Semiconductor Power Converters: Design and Control II | |

Courses Currently Unscheduled

- 227. Network Synthesis
- 243. Advanced Linear Systems Theory
- 317. Quantum Electronics
- 373. Selected Topics in Field Theory

Mechanical Engineering and Materials Science

Professor Jack Bartley Chaddock, Sc.D. (Massachusetts Inst. of Tech.), *Chairman*
 Associate Professor Edward Shaughnessy, Jr., Ph.D. (Virginia), *Director of Graduate Studies*

Professors

Franklin H. Cocks, Sc.D. (Massachusetts Inst. of Tech.); Devendra P. Garg, Ph.D. (New York Univ.); Charles Morgan Harman, Ph.D. (Wisconsin); George Wilbur Pearsall, Sc.D. (Massachusetts Inst. of Tech.); Marion LaVerne Shepard, Ph.D. (Iowa State)

Adjunct Professors

Henry R. Piehler, Sc.D. (Massachusetts Inst. of Tech.); Verne L. Roberts, Ph.D. (Illinois)

Associate Professors

Ernest Elsevier, M.S.M.E. (Georgia Inst. of Tech.); Phillip L. Jones, Ph.D. (California at Los Angeles); Donald Wright, Ph.D. (Purdue)

Adjunct Associate Professor

Richard A. Whisnant, Ph.D. (Georgia Inst. of Tech.)

Assistant Professors

Gale Herbert Buzzard, Ph.D. (North Carolina State); Timothy K. Hight, Ph.D. (Stanford); Charles E. Johnson, Ph.D. (Duke)

Adjunct Assistant Professor

Tony W. Sigmon, Ph.D. (North Carolina State)

Assistant Research Professor

Ish Sud, Ph.D. (Duke)

Graduate study is available to students seeking the M.S. and Ph.D. degrees with a major in either mechanical engineering or materials science. Departmental programs of advanced study and research include photovoltaics, control systems, dynamics and vibrations, energy conversion, fluid mechanics, heat and mass transport, mechanical design, thermodynamics, physical metallurgy, corrosion, fracture, and polymer science. The faculty cooperates with faculty members from a number of other departments and schools to establish interdisciplinary research projects and programs of study in areas which include applied mechanics, biomechanics, biomedical materials, environmental quality and control, ocean engineering, systems engineering, engineering and public policy, and transportation systems.

The program includes the opportunity for experimental work as well as theoretical study. A major emphasis is placed upon developing the research ability of the student and relating the program to the evolving needs of modern engineering practice.

Courses of Instruction

- 202. Engineering Thermodynamics
- 211. Theoretical and Applied Polymer Science
- 213. Advanced Materials Science
- 214. Corrosion and Corrosion Control
- 215. Biomedical Materials and Artificial Organs
- 216. Materials Science and Solar Technology
- 217. Fracture of Engineering Materials
- 221. Compressible Fluid Flow
- 222. Heat Transfer
- 223. Principles and Design of Heat Transfer Equipment
- 224. An Introduction to Turbulence
- 226. Intermediate Fluid Mechanics
- 227. Advanced Fluid Mechanics
- 230. Modern Control and Dynamic Systems
- 235. Advanced Mechanical Vibrations
- 236. Engineering Acoustics and Noise Control
- 240. Patent Technology and Law for Engineers
- 254. Solar Energy Thermal Processes
- 265. Advanced Topics in Mechanical Engineering
- 267. Energy Use in Educational Facilities
- 302. Advanced Thermodynamics

- 324. Conduction and Radiation Heat Transfer
- 399. Special Readings in Mechanical Engineering

Courses Currently Unscheduled

- 210. Intermediate Dynamics
- 231. Systems Response and Control
- 232. Nonlinear Analysis
- 273. Ocean Engineering
- 280. Nuclear Reactor Power Cycles
- 300. Advanced Projects in Mechanical Engineering
- 311. Behavior of Crystalline Solids
- 321. Gas Dynamics
- 322. Mechanics of Viscous Fluids
- 323. Convective Heat Transfer
- 327. Homogeneous Turbulence
- 328. Turbulent Shear Flow
- 331. Nonlinear Control Systems
- 333. Seminar in Control Systems
- 335. Analytical Methods in Vibrations
- 372. Finite Element Techniques in Design

English

Professor Clyde de Loache Ryals, Ph.D. (Pennsylvania), *Chairman*

Associate Professor A. Leigh DeNeef, Ph.D. (Pennsylvania State), *Director of Graduate Studies*

Professors

Carl Anderson, Ph.D. (Pennsylvania); Louis J. Budd, Ph.D. (Wisconsin); Edwin H. Cady, Ph.D.

(Wisconsin), *Andrew W. Mellon Professor in the Humanities*; Bernard I. Duffey, Ph.D. (Ohio State); Oliver W. Ferguson, Ph.D. (Illinois); Robert F. Gleckner, Ph.D. (Johns Hopkins); Gerald Monsman, Ph.D. (Johns Hopkins); Holger O. V. Nygard, Ph.D. (California at Berkeley); Dale B. J. Randall, Ph.D. (Pennsylvania); Edmund Reiss, Ph.D. (Harvard); Grover C. Smith, Ph.D. (Columbia); George W. Williams, Ph.D. (Virginia); Kenny J. Williams, Ph.D. (Pennsylvania)

Associate Professors

Ronald Richard Butters, Ph.D. (Iowa); Gerald E. Gerber, Ph.D. (Northwestern); Wallace Jackson, Ph.D. (Pennsylvania); Buford Jones, Ph.D. (Harvard); Elgin Mellow, Ph.D. (London); Victor H. Strandberg, Ph.D. (Brown)

Assistant Professor

Joseph A. Porter, Ph.D. (California at Berkeley)

The department offers graduate work leading to the A.M. and Ph.D. degrees. A statement of the requirements for the A.M. and Ph.D. degrees may be obtained from the Director of Graduate Studies. The department requires a reading knowledge of one foreign language for the A.M. degree; for the Ph.D. degree, two languages determined by the student's committee.

Courses of Instruction

- | | |
|--|---|
| 207. Old English Language and Literature | 324. Studies in Shakespeare |
| 208. History of the English Language | 329. Studies in Milton |
| 209. Present-Day English | 337. Studies in Augustanism |
| 212. Middle English Literature: 1100 to 1500 | 338. Studies in a Major Augustan Author |
| 221. Renaissance Prose and Poetry: 1500 to 1660 | 341. Studies in Romanticism |
| 225. Renaissance Drama: 1500 to 1642 | 347. Studies in Victorianism |
| 235. Restoration and Eighteenth-Century Literature: 1660 to 1800 | 348. Studies in a Major Nineteenth-Century Author |
| 241. Romantic Literature: 1790 to 1830 | 353. Studies in Modern British Literature |
| 245. Victorian Literature: 1830 to 1900 | 361. Studies in American Literature before 1915 |
| 251. British Literature since 1900 | 368. Studies in a Major American Author before 1915 |
| 263. American Literature to 1865 | 375. Studies in Modern American Literature |
| 267. American Literature: 1865 to 1915 | 376. Studies in a Modern Author (British or American) |
| 275. American Literature since 1915 | 380. Studies in Ballad and Folksong |
| 280. Introduction to Folklore | 383. Studies in Textual Criticism |
| 287. Major Critical Thought | 385. Studies in Literary Criticism |
| 310. Studies in Old English Literature | 390. Seminar in the Teaching of Composition |
| 312. Studies in Middle English Literature | 392. Tutorial in Journal Editing |
| 315. Studies in Chaucer | |
| 321. Studies in Renaissance Literature | |

Tutorials

Specialized subjects of study will be offered, numbered in the 390s, to accommodate the interests of advanced graduate students. Tutorials will be offered to single students or to small groups. Instruction will be conducted in weekly sessions, or in more frequently scheduled sessions, if the instructor wishes. Emphasis will be on independent reading and investigation, and oral and written reports. A substantial amount of writing will be required.

Students are advised to consult the Director of Graduate Studies for a list of tutorials currently scheduled to be offered.

Forestry and Environmental Studies

Professor Benjamin A. Jayne, Ph.D. (Yale), *Dean*
 Professor William James Stambaugh, Ph.D. (Yale), *Director of Graduate Studies*

Professor Emeritus

Roger Fabian Anderson, Ph.D. (Minnesota)

Professors

Robert Lloyd Barnes, Ph.D. (Duke); Henry Hellmers, Ph.D. (California at Berkeley); Kenneth Richard Knoerr, Ph.D. (Iowa); Jane Philpott, Ph.D. (Iowa); Charles William Ralston, Ph.D. (Duke); Gerald R. Stairs, Ph.D. (Yale)

Adjunct Professors

Stephen G. Boyce, Ph.D. (North Carolina State); William J. Hart, M.P.A. (Harvard)

Associate Professors

Curtis J. Richardson, Ph.D. (Tennessee); Syed Z. Shariq, Ph.D. (Virginia Polytechnic Institute); P. Aarne Vesilind, Ph.D. (North Carolina at Chapel Hill)

Adjunct Associate Professor

George F. Dutrow, Ph.D. (Duke)

Assistant Professors

Joan P. Baker, Ph.D. (Cornell); Robert T. Boyd, Ph.D. (California at Davis); William F. Hyde, Ph.D. (Michigan); Kenneth H. Reckhow, Ph.D. (Harvard); Jack P. Royer, Ph.D. (Cornell); William Andrew Thompson, Ph.D. (Univ. of British Columbia)

Adjunct Assistant Professor

J. Michael Vasievich, Ph.D. (Duke)

Major and minor work is offered in the areas of natural resource science/ecology, natural resource systems science, and natural resource economics/policy. Programs of study and research lead to the A.M., M.S., and Ph.D. degrees. College graduates who have a bachelor's degree in one of the natural or social sciences, forestry, engineering, business, or environmental science will be considered for admission to a degree program. Students will be restricted to the particular fields of specialization for which they are qualified academically. Graduate School programs usually concentrate on some area of natural resource science/ecology, systems science, or economics/policy, while study in resource management is more commonly followed in one of the professional master's degree programs of the School of Forestry and Environmental Studies. For more complete program descriptions and information on professional training in forestry or environmental studies, the *Bulletin of Duke University: School of Forestry and Environmental Studies* should be consulted.

The specific degrees available in forestry and related natural resources through the Graduate School are: the A.M. (with or without a thesis), M.S. (with a thesis), and the Ph.D. Students majoring in forestry or environmental studies may be required to demonstrate satisfactory knowledge of one or two foreign languages for the Ph.D. degree. More information on degree and language requirements can be found in the degree requirements section of the bulletin.

Courses of Instruction

Natural Resource Science/Ecology

- 205. Silvics
- 207. Biology of Forest Insects and Diseases
- 211. Resource Ecology and Ecosystem Analysis
- 212. Ecosystem Dynamics in Silviculture
- 214. Tree Biology
- 215. Forest Entomology
- 216. Forest Pathology
- 218. Barrier Island Ecology
- 220. Soil Classification and Interpretation
- 230. General Meteorology
- 232. Microclimatology
- 234. Watershed Hydrology
- 236. Water Quality Management

- 238. Managing the Aquatic Environment
- 309. Chemical Aspects of Forest Protection
- 310. Vegetation Productivity and Mineral Cycling in the Ecosystem
- 313. Wildland and Wildlife Resources
- 315. Ecology of Tree Diseases
- 316. Seminar in Forest Protection
- 317. Seminar in Integrated Case Studies in Natural Resource Analysis
- 318. Seminar in Forest Resource Management
- 319. Seminar in Natural Resource Ecology
- 324. Wetlands Ecology
- 328. Forest Soil Fertility
- 330L. Environmental Instrumentation

Natural Resource Systems Science

- 250. Natural Resource Data Analysis I
- 255. Forest Measurements
- 256. Remote Sensing for Resource Management
- 262. Applied Population Ecology
- 350. Natural Resource Data Analysis II
- 353. Mathematical Models for Resource Management
- 355. Optimization Methods for Resource Management
- 356. Computer Simulation in Resource Management
- 368. Seminar in Lake Modeling

Natural Resource/Economics Policy

- 270. Resource Economics and Policy
- 283. Environmental Policy and Values
- 381. Natural Resource Policy
- 382. Environmental Perspectives: Risks, Rights, Regulations
- 384. International Resource and Environmental Issues

- 388. Seminar in Resource and Environmental Policy

Special Studies and Projects

- 201. Field Studies
- 202. Student Projects
- 291. Modules in Ecosystem Analysis
- 299. Independent Projects

Courses Currently Unscheduled

- 293. Ecological Basis for Coastal Area Planning and Management
- 295. Applied Ecology of the Southern Appalachian Mountains
- 312. Forest Biochemistry
- 314. Ecology of Forest Insects
- 322. Microbiology of Forest Soils
- 338. Micrometeorology and Biometeorology Seminar
- 377. Seminar in Natural Resource Allocation and Efficiency

The University Program in Genetics

Professor Nicholas Gillham, Ph.D. (Harvard), *Director*

Professors

D. Bernard Amos, M.D. (Guys Hospital, London); Janis Antonovics, Ph.D. (Univ. Coll. of North Wales); John E. Boynton, Ph.D. (California at Davis); Richard Burns, Ph.D. (Illinois); Shelia Counce, Ph.D. (Univ. of Edinburgh); Samson R. Gross, Ph.D. (Columbia); Walter R. Guild, Ph.D. (Yale); Wolfgang Karl Joklik, D. Phil. (Univ. of Oxford), *James B. Duke Professor of Microbiology and Immunology*; Montrose J. Moses, Ph.D. (Columbia); R. Bruce Nicklas, Ph.D. (Columbia); Calvin L. Ward, Ph.D. (Texas); Frances Ellen Ward, Ph.D. (Brown); Robert E. Webster, Ph.D. (Duke)

Adjunct Professors

John W. Drake, Ph.D. (California Inst. of Tech.); Burke H. Judd, Ph.D. (California Inst. of Tech.); John Charles Lucchesi, Ph.D. (California at Berkeley)

Associate Professors

Deepak Bastia, Ph.D. (Chicago); Ronald C. Greene, Ph.D. (California Inst. of Tech.); Paul L. Modrich, Ph.D. (Stanford)

Assistant Professors

Mary Vickers Burdett, Ph.D. (Georgetown); Sharyn Endow, Ph.D. (Yale); Arno L. Greenleaf, Ph.D. (Harvard); Michael Steven Hershfield, M.D. (Pennsylvania); Edward W. Holmes, M.D. (Pennsylvania); Nicholas M. Kredich, M.D. (Michigan); Frederick H. Schachat, Ph.D. (Stanford); Deborah A. Steege, Ph.D. (Yale)

The University Program in Genetics provides a coherent course of study in all facets of biology related to genetics. Graduate students registered in any of the biological sciences departments may apply to the faculty of the genetics program to pursue study and research leading to an advanced degree. It would be helpful if applicants for admission to the Graduate School indicated their interest in the genetics program at the time of application. Requests for information describing more completely the research interests of the staff, facilities, and special stipends and fellowships should be addressed to the Director, Genetics Program (Department of Zoology).

Courses of Instruction

- | | |
|---|------------------------------|
| 215. Molecular Genetics I: Genetic Mechanisms | 285. Ecological Genetics |
| 264S. Chromosomes, DNA, and Evolution | 286. Evolutionary Mechanisms |
| 268. Molecular Biology II: Nucleic Acids | 336. Immunogenetics |
| 280. Principles of Genetics | 350. Genetics Colloquium |
| 283. Extrachromosomal Inheritance | |

Geology

Professor Ronald D. Perkins, Ph.D. (Indiana), *Chairman*

Professor S. Duncan Heron, Jr., Ph.D. (North Carolina at Chapel Hill), *Director of Graduate Studies*

Professor

Orrin H. Pilkey, Ph.D. (Florida State)

Associate Professors

William J. Furbish, M.S. (Wisconsin); George W. Lynts, Ph.D. (Wisconsin); Bruce R. Rosendahl, Ph.D. (California at San Diego)

Assistant Professor

Paul A. Baker, Ph.D. (California at San Diego)

The Department of Geology offers graduate work leading to the M.S. and Ph.D. degrees. An undergraduate degree in geology is not a prerequisite for graduate studies, but a student must have had or must take a summer field geology course (or equivalent experience), mineralogy, lithology, stratigraphy, paleontology, and structural geology. In addition, the student must have had one year of college chemistry, one year of college physics, and mathematics through calculus.

Graduate courses in the Department of Geology provide specialized training in the fields of facies analysis, geological oceanography, sedimentary petrology, paleobiology, geophysics, and low-temperature mineralogy.

An acceptable thesis is required. There is no language requirement for the M.S. degree.

Courses of Instruction

- | | |
|--|--|
| 205. Geological Oceanography | 235S. Global Tectonics |
| 206S. Principles of Geological Oceanography | 243S. Microfossils |
| 211S. Stratigraphic Principles and Application | 245. Foraminifera |
| 212. Carbonate Facies Analysis: Recent and Ancient | 247. Paleocology |
| 213. Sedimentology | 250. Introduction to Marine Geophysics |
| 214S. Sedimentary Petrography | 251. Physics of the Earth |
| 215. Clastics Facies Analysis: Recent and Ancient | 252. Exploration Seismology |
| 216. Field Analysis of South Florida Carbonates | 253S. Geophysics |
| 217. Field Analysis of Ancient Sedimentary Sequences | 254. Geophysical Field Methods |
| 229. Economic Geology | 260S. Hydrocarbon Exploration |
| 230. Principles of Structural Geology | 270. Geochemistry |
| | 271. Low-Temperature Geochemistry |
| | 371, 372. Advanced Topics in Geology |

Germanic Languages and Literature

Professor Leland R. Phelps, Ph.D. (Ohio State), *Chairman*

Associate Professor Frank Borchardt, Ph.D. (Johns Hopkins), *Director of Graduate Studies*

Professor

Harold Jantz, Ph.D. (Wisconsin)

Associate Professors

A. Tilo Alt, Ph.D. (Texas); James L. Rolleston, Ph.D. (Yale)

Assistant Professor

Donald K. Rosenberg, Ph.D. (Ohio State)

The Department of Germanic Languages and Literature offers graduate work leading to the A.M. degree. Students who expect to major in German should have had sufficient undergraduate courses in Germanic languages to enable them to proceed to more advanced work.

Students who wish to take courses in German as a related field should normally have completed a third-year course (in exceptional cases, a second year) of college German with acceptable grades.

Courses of Instruction

200S. Proseminar
201S, 202S. Goethe
205, 206. Middle High German
207S. German Romanticism
209S. Drama
211S. Nineteenth-Century Literature
213S. Hofmannsthal-Rilke-Benn
214S. The Twentieth Century
215S. Seventeenth-Century Literature
216. History of the German Language

217S. Renaissance and Reformation Literature
218S. The Teaching of German
219. Applied Linguistics
230S. Lyric Poetry

Courses Currently Unscheduled

301. Gothic
321, 322. Germanic Seminar

Health Administration

Professor James P. Cooney, Jr., Ph.D. (Minnesota), *Chairman and Director of Graduate Studies*

Professors

E. Harvey Estes, Jr., M.D. (Emory); Jon Jaeger, Ph.D. (Duke); David G. Warren, J.D. (Duke)

Adjunct Professors

Arnold D. Kaluzny, Ph.D. (Michigan); Richard J. Stull, B.A. (Duke); Robert E. Toomey, LL.D. (Clemson)

Associate Professors

David J. Falcone, Ph.D. (Duke); Louis E. Swanson, A.B. (Hamilton); David Michael Warner, Ph.D. (Tulane)

Assistant Professor

Donald S. Smith II, M.H.A. (Minnesota)

Adjunct Assistant Professors

Jeff H. Steinert (Columbia); Robert G. Winfree, M.A. (Iowa)

Associate

Douglas Henderson-James, M.H.A. (Duke)

Instructor

Robert O. Lunn, Ph.D. (North Carolina at Chapel Hill)

Graduate study leading toward preparation for a career in the administration of all types of health organizations and programs is offered through a twenty-month academic program that leads to the M.H.A. degree. Students without previous administrative experience in the health field usually elect to undertake a twelve-month administrative residency following graduation. This residency is a

period of varied administrative experience that is conducted under faculty supervision and is individually designed around each student's interests. For students without previous administrative experience, the residency should be considered an integral part of the M.H.A. program. Admission to this program is based upon suitability of the candidate to assume leadership roles in the organization and management of the delivery of health services, as well as on capability for graduate study.

Courses of Instruction

300. Introduction to Medical Care
 301, 302. The Health System and Its Environment
 312. Comparative Health Systems
 313. Quantitative Decision Making
 321. Organizational Behavior in Health Systems
 322. Design of Health Service Organizations
 326. Health Economics
 331. Planning Health Services: Systems Planning
 332. Institutional and Facilities Planning
 333. Financial Management for Health Organizations
 340. Social Dimensions of Illness
 344. Personnel Management
 345. Public Policy and Health Care
 348. Legal Considerations in Health Administration
 350. Practicum in Health Services Administration
 351. Institutional Health Services
 352. Ambulatory Health Services
 353. Community Health Services
 360. Current Topics in Health Administration
 361, 362. Case Studies in Health Administration
 363. Health Administration Game

367. Multi-Institutional Arrangements
 371, 372. Directed Research
 373. Current Legal Problems in Health Administration
 377. Research Design and Data Analysis
 383. Program Development, Monitoring, and Evaluation
 387. Information Systems
 388. Technology
 389. Corporate Planning for Health Services Organizations

Management Sciences Courses for Students in Health Administration

300. Managerial Economics
 310. Quantitative Methods
 311. Statistical Analysis for Management Decisions
 330. Financial Accounting
 331. Managerial Accounting
 333. Controllership
 351. Financial Management

History

Professor Anne Firor Scott, Ph.D. (Radcliffe), *William K. Boyd Professor of History and Chairman*
 Professor Warren Lerner, Ph.D. (Columbia), *Director of Graduate Studies*

Professors

Clark R. Cahow, Ph.D. (Duke); John Cell, Ph.D. (Duke); William Chafe, Ph.D. (Columbia); Joel G. Colton, Ph.D. (Columbia); Calvin D. Davis, Ph.D. (Indiana); Robert F. Durden, Ph.D. (Princeton); Arthur B. Ferguson, Ph.D. (Cornell); John Hope Franklin, Ph.D. (Harvard), *James B. Duke Professor of History*; Irving B. Holley, Jr., Ph.D. (Yale); Frederic Hollyday, Ph.D. (Duke); Seymour Mauskopf, Ph.D. (Princeton); John F. Oates, Ph.D. (Yale); John F. Richards, Ph.D. (California at Berkeley); William E. Scott, Ph.D. (Yale); John J. TePaske, Ph.D. (Duke); Richard L. Watson, Ph.D. (Yale); Ronald Witt, Ph.D. (Harvard); Charles Young, Ph.D. (Cornell)

Associate Professors

Charles W. Bergquist, Ph.D. (Stanford); John Crellin, Ph.D. (Univ. of London); Arif Dirlik, Ph.D. (Rochester); Raymond Gavins, Ph.D. (Virginia); James F. Gifford, Ph.D. (Duke); Lawrence C. Goodwyn, Ph.D. (Texas); Martin Miller, Ph.D. (Chicago); Sydney Nathans, Ph.D. (Johns Hopkins); Alex Roland, Ph.D. (Duke); Peter H. Wood, Ph.D. (Harvard)

Assistant Professors

Joseph di Corcia, Ph.D. (Duke); Peter C. English, M.D., Ph.D. (Duke); Thomas M. Huber, Ph.D. (Chicago); Bruce R. Kuniholm, Ph.D. (Duke); William M. Reddy, Ph.D. (Chicago)

Lecturer

Martin Bronfenbrenner, Ph.D. (Chicago)

The Department of History offers graduate work leading to the A.M. and Ph.D. degrees. Candidates for the A.M. degree must have a reading knowledge of at least one ancient or modern foreign language related to their programs of study and have completed successfully a substantial research paper, normally the product of a year's seminar or two semester courses. The paper must be approved by two readers—the supervising professor and a second professor from the graduate staff. Students anticipating a May degree must have their papers read and approved by April 15; those anticipating a September degree must have their papers read and approved by August 1.

Candidates for the degree of Doctor of Philosophy are required to prepare themselves for examinations in four fields. Three usually shall be history. The choice of fields is determined in consultation with the student's supervisor and the Director of Graduate Studies. The department offers graduate instruction in the fields of Africa, Afro-American history, ancient history, medieval and early modern Europe, modern Europe, American history, Britain and the Commonwealth, Imperial Russia, Soviet Russia, Latin America, South Asia, modern China, modern Japan, military history, history of science, and history of medicine. The candidate for the Ph.D. degree usually must have a reading knowledge of two foreign languages, but in certain cases where the candidate's supervisor and the Director of Graduate Studies approve, and where the candidate's research for the dissertation would appreciably benefit, an alternative to the second language may be accepted. This alternative usually would take the form of successfully completed formal training in an auxiliary discipline (such as statistics or a course in one of the other social sciences with an emphasis upon methodology) of 3 to 6 units, or the equivalent, depending on the student's program. It also must be in addition to any previous undergraduate work in the discipline. The requirement, whether satisfied by two languages or by one language and an alternative, must be met prior to the preliminary examination.

Students may receive credit for either semester of a hyphenated course at the 200 level without taking the other semester if they obtain written consent from the instructor.

Ancient History. For courses in ancient history which may be taken for credit in either history or classical studies, see Classical Studies.

Courses of Instruction

- | | |
|---|---|
| 201S. Aspects of Change in Prerevolutionary Russia | 234S. Political Economy of Development: Theories of Change in the Third World |
| 202S. Russian Anarchism: Theory and Practice | 235. The Antebellum South |
| 205S. Progressive Era in the United States and World War I | 236. The Reconstruction Era |
| 209S, 210S. Topics in Afro-American History, 1619-Present | 237S. Europe in the Early Middle Ages |
| 212. Recent Interpretations of United States History | 238S. Europe in the High Middle Ages |
| 213. Medicine and Society in America | 239. History of Socialism and Communism |
| 215-216. The Diplomatic History of the United States | 243-244. Marxism and History |
| 218S. Twentieth-Century Europe: Social and Economic Issues | 247. History of Modern India and Pakistan, 1707-1857 |
| 221. Problems in the Economic and Social History of Europe, 1200-1700 | 248. History of Modern India and Pakistan, 1857 to the Present |
| 224S. Seminar in Legal History | 249-250. Social and Intellectual History of the United States |
| 225. American Legal History | 253S, 254S. Foreign Relations of the European Powers, 1871-1945 |
| 226S. Seminar in Legal Biography | 255S-256S. Problems in African History |
| 227-228. Recent United States History: Major Political and Social Movements | 260S. Economic History of Japan |
| 231S, 232S. Problems in the History of Spain and the Spanish Empire | 261-262. Problems in Soviet History |
| | 265S. Problems in Modern Latin American History |
| | 267S-268S. From Medieval to Early Modern England |

269S-270S. British History, Seventeenth Century to the Present
 273S, 274S. Topics in the History of Science
 277S. The Coming of the Civil War in the United States, 1820-1861
 278S. The Civil War in the United States and Its Aftermath, 1861-1900
 282S. Canada
 285S, 286S. Oral History
 287S, 288S. History of Japan
 301-302. Research Seminar in History
 307-308. Seminar in United States History
 312. Seminar in the Teaching of History in College
 314. Historical and Social Science Methodology
 351-352. Colloquia
 371-372. Research Seminars
 399. Independent Study

Courses Currently Unscheduled

204. The Uses of History in Public Policy: II
 206S. The Nineteen-Twenties and the New Deal in the United States
 207S, 208S. The Development of Urban America
 222. Problems in European Intellectual History, 1250-1550
 276S. Central Europe, 1848-1918
 297S. The British Empire of the Nineteenth Century
 298S. The Commonwealth in the Twentieth Century
 317, 318. Seminar in the History of Western Europe
 392. Tutorial in Journal Editing
 401. Seminar on the British Commonwealth

Humanities—The Master of Arts Program

Associate Professor Peter Burian, Ph.D. (Princeton), *Director*

The Master of Arts Program in Humanities is an interdepartmental program and is tailored to the needs of individual students. The candidate defines a theme and selects appropriate course work with the aid and approval of a supervising committee. Thirty units of course work are required for completion of the program. There is no thesis requirement, but the candidate submits at least two substantial papers arising from course work for review by committee members, and meets with them to discuss his or her program in a final master's colloquium. A noncredit introductory seminar, "Humanities as Ways of Knowing," is offered to all participants in the program.

The program is open to holders of undergraduate degrees in any discipline who can demonstrate sufficient background in humanities to permit study at the graduate level. Admission is by regular application to the Graduate School. Students may enroll full-time or part-time (minimum of 6 units per term). Students considering entering the program may enroll in an appropriate graduate course or courses through the Office of Continuing Education, at the same time making their interest known to the Director of the humanities program.

Marine Sciences—The University Program

Professor John Costlow, Ph.D. (Duke), *Director*

Associate Professor Joseph S. Ramus, Ph.D. (California at Berkeley), *Director of Graduate Student Affairs*

Professor Emeritus

Cazlyn Green Bookhout, Ph.D. (Duke)

Professors

Richard T. Barber, Ph.D. (Stanford); John Gutknecht, Ph.D. (North Carolina at Chapel Hill); Orrin Pilkey, Ph.D. (Florida State); Richard A. White, Ph.D. (Michigan)*

Associate Professors

Richard B. Forward, Ph.D. (California at Santa Barbara); David R. McClay, Ph.D. (North Carolina at Chapel Hill)*; Bruce R. Rosendahl, Ph.D. (California at San Diego)*; Richard B. Searles, Ph.D. (California at Berkeley)*; J. Bolling Sullivan, Ph.D. (Texas); John P. Sutherland, Ph.D. (California at Berkeley)

*In residence during summer only.

Assistant Medical Research Professors

Celia Bonaventura, Ph.D. (Texas); Joseph Bonaventura, Ph.D. (Texas)

Graduate students from any and all academic disciplines are encouraged to take professional training at the Marine Laboratory. The program operates year-round, providing course work in the marine sciences, an active seminar program, and facilities supporting dissertation research. Presently, resident graduate students number twenty and represent the Departments of Biochemistry, Botany, Physiology, and Zoology. Ordinarily, dissertation advisers are resident as well, although this need not be the case. The Marine Laboratory has available five full-time teaching assistantships for graduate student support. In addition, tuition credits obtained from fellowship support may be applied to courses given both at the Marine Laboratory and the Durham campus.

Persons interested in graduate work in marine sciences should apply through one of the appropriate departments. Forms may be obtained from the Graduate School.

Applications for summer courses at the laboratory should be addressed to the Admissions Office, Duke University Marine Laboratory, Beaufort, North Carolina 28516. The form may be obtained from the *Bulletin of Duke University: Marine Laboratory*. The application for enrollment in the Duke University summer session should be accompanied by transcripts of undergraduate and graduate work. Applications should be received as early as possible. Graduate students planning to enroll in courses or seminars offered during the fall or spring at the Marine Laboratory should notify the Admissions Office of the Marine Laboratory of such intent *prior* to the beginning of the respective term.

Students registering for research should do so under the appropriate departmental numbers.

The following courses are offered at Beaufort. See the Marine Laboratory bulletin for the current schedule of courses.

Courses of Instruction

Summer Program at Beaufort

203L. Marine Ecology
204L. Marine Microbiology
215L. Primary Productivity in the Seas
218. Barrier Island Ecology
219L. Benthic Marine Algae
244L. Diversity of Plants
247L. Plant Ecology
250L. Physiology of Marine Animals
250. Introduction to Marine Geophysics
263L. Tropical Seaweeds
274L. Marine Invertebrate Zoology
276. Comparative and Evolutionary Biochemistry
278L. Invertebrate Developmental Biology
296. Physiology and Environmental Health I
297. Physiology and Environmental Health II
353, 354. Research
359, 360. Research

Fall Program at Beaufort

209. Independent Study
245L. Macromolecules, Ecology, and Evolution
———. Seminar

Spring Program at Beaufort

210. Independent Study
———. Seminar

Courses Currently Unscheduled

205. Geological Oceanography
220L. Adaptations of Organisms to the Marine Environment
281L. Marine Invertebrate Larvae
293. Ecological Basis for Coastal Area Planning and Management

Mathematics

Professor Seth L. Warner, Ph.D. (Harvard), *Chairman and Director of Graduate Studies*

Professor Emeritus

Francis Joseph Murray, Ph.D. (Columbia)

Professors

William K. Allard, Ph.D. (Brown); Michael C. Reed, Ph.D. (Stanford); David G. Schaeffer, Ph.D. (Massachusetts Inst. of Tech.); Joseph Robert Schoenfeld, Ph.D. (Michigan); Morris Weisfeld, Ph.D. (Yale)

Adjunct Professors

Leon Bernstein, Ph.D. (State Univ. of Vilnius); Jagdish Chandra, Ph.D. (Rensselaer)

Associate Professors

Donald Stanley Burdick, Ph.D. (Princeton); Richard Earl Hodel, Ph.D. (Duke); Joseph W. Kitchen Jr., Ph.D. (Harvard); David P. Kraines, Ph.D. (California at Berkeley); Lawrence Carlton Moore, Jr., Ph.D. (California Inst. of Tech.); William Leslie Pardon, Ph.D. (Princeton); Richard A. Scoville, Ph.D. (Yale); David A. Smith, Ph.D. (Yale)

Assistant Professors

Daniel E. Flath, Ph.D. (Harvard); Detlef Hardorp, Ph.D. (Princeton); Robert J. V. Jackson, Ph.D. (Princeton); Gregory F. Lawler, Ph.D. (Princeton); Mark Levi, Ph.D. (New York); Michael Shearer, D.Phil. (Univ. of Oxford); Robert L. Wolpert, Ph.D. (Princeton)

Graduate work in the Department of Mathematics is offered leading to the M.S., A.M., and Ph.D. degrees. Admission to these programs is based on the applicant's undergraduate academic record, level of preparation for graduate study, the Graduate Record Examination, and letters of recommendation.

All A.M. and Ph.D. candidates are required to pass a qualifying examination after completing their first year of graduate study. The A.M. degree with a major in mathematics is awarded upon completion of 30 units of graded course work and passing the qualifying examination. A thesis may be substituted for 6 units of course work only under special circumstances. The department also offers a program in applied statistics with a minor in computer science leading to the M.S. degree.

Candidacy for the Ph.D. is established by passing the qualifying examination at the Ph.D. level, completing the department's language requirements, and passing an oral preliminary examination. The preliminary examination is normally taken at the beginning of the third year. The preliminary examination is conducted by a committee selected by the rules of the Graduate School and the department. The examination can, at the student's option, consist of either questions based on the student's course work at Duke or on the specific area of research plus a minor subject selected by the student.

After admission to candidacy, the Ph.D. degree is awarded on the basis of the student's scholarly ability as demonstrated by the dissertation and its defense. The dissertation is the most important requirement in the award of the Ph.D. degree.

Courses of Instruction

- | | |
|---|--------------------------------------|
| 200. Introduction to Algebraic Structures I | 241. Linear Models |
| 201. Introduction to Algebraic Structures II | 242. Multivariate Statistics |
| 203. Basic Analysis I | 248, 249. Topics in Statistics |
| 204. Basic Analysis II | 250. Introductory Mathematical Logic |
| 205. Topology | 251. Set Theory I |
| 206. Differential Geometry | 252. Set Theory II |
| 221, 222. Numerical Analysis I, II | 258, 259. Topics in Logic |
| 230. Mathematical Methods in Physics and Engineering I | 260. Groups, Rings, Modules |
| 231. Mathematical Methods in Physics and Engineering II | 261. Commutative Algebra |
| 234. Mathematics for Quantum Mechanics | 268, 269. Topics in Algebra |
| 235. Topics in Mathematical Physics | 271. Algebraic Topology |
| 238, 239. Topics in Applied Mathematics | 278-279. Topics in Topology |
| 240. Applied Stochastic Processes | 280. Differential Analysis |
| | 281. Real Analysis I |
| | 282. Real Analysis II |

- 283. Linear Operators
- 285. Complex Analysis
- 288, 289. Topics in Analysis
- 290. Probability
- 297. Fourier Analysis and Distribution Theory
- 298. Partial Differential Equations I
- 387. Current Research in Mathematical Physics
- 388-389. Current Research in Analysis

Courses Currently Unscheduled

- 284. Topics in Functional Analysis
- 286. Topics in Complex Analysis
- 293, 294. Topics in Probability Theory
- 299. Partial Differential Equations II
- 358-359. Current Research in Logic
- 368-369. Current Research in Algebra
- 378-379. Current Research in Topology

Program in Medieval and Renaissance Studies

Professor David Curtis Steinmetz, Th.D. (Harvard), *Chairman*

Associate Professor Rona Goffen, Ph.D. (Columbia), *Director of Graduate Studies*

The graduate Program in Medieval and Renaissance Studies is an interdisciplinary program administered by the Duke University Center for Medieval and Renaissance Studies. In consultation with the Director of Graduate Studies, students in the program select courses in art, history, music, philosophy, religion, and language and literature (classical studies, English, German, and Romance languages). The program is described in the section on special programs; for a description of individual courses see the large *Bulletin of Duke University: Graduate School*.

Courses of Instruction

Department of Art

- 230S. Medieval and Byzantine Art and Architecture
- 232S. Romanesque and Gothic Art and Architecture
- 240. Italian Art
- 242S. Studies in Italian Renaissance Art

- 222. Problems in European Intellectual History, 1250-1550
- 237S. Europe in the Early Middle Ages
- 238S. Europe in the High Middle Ages
- 267S-268S. From Medieval to Early Modern England

Department of Classical Studies

- 221. Medieval Latin
- 312. Proseminar in Latin Paleography

Department of Music

- 201. Bibliography
- 211. Medieval Notation
- 221. Monophonic Music

Department of English

- 207. Old English Language and Literature
- 208. History of the English Language
- 212. Middle English Literature: 1100 to 1500
- 221. Renaissance Prose and Poetry: 1500 to 1660
- 225. Renaissance Drama: 1500 to 1642
- 310. Studies in Old English Literature
- 312. Studies in Middle English Literature
- 315. Studies in Chaucer
- 321. Studies in Renaissance Literature
- 324. Studies in Shakespeare
- 329. Studies in Milton
- 380. Studies in Ballad and Folksong
- 383. Textual Criticism

Department of Philosophy

- 218S. Medieval Philosophy
- 219S. Late Medieval and Renaissance Philosophy

Department of Religion

- 219. Augustine
- 236. Luther and the Reformation in Germany
- 241. Problems in Reformation Theology
- 334. Theology and Reform in the Later Middle Ages
- 338. Calvin and the Reformed Tradition
- 339. The Radical Reformation

Department of Germanic Languages and Literature

- 205, 206. Middle High German
- 215S. Seventeenth-Century Literature
- 216. History of the German Language
- 217S. Renaissance and Reformation Literature

Department of Romance Languages

French

- 211. History of the French Language
- 240. Old French Literature
- 248. French Literature of the Seventeenth Century
- 345. French Prose of the Sixteenth Century
- 346. Topics in Renaissance Poetry
- 391, 392. French Seminar (medieval and Renaissance topics)

Department of History

- 221. Problems in the Economic and Social History of Europe, 1200-1700

Department of Romance Languages (cont.)

Italian

- 284. Dante
- 285. Dante

Spanish

- 210. History of the Spanish Language
- 253. Cervantes
- 254. Drama of the Golden Age
- 258. Spanish Lyric Poetry before 1700
- 391, 392. Hispanic Seminar (medieval and Renaissance topics)

Courses Currently Unscheduled

- Classical Studies 306. Latin Seminar VI
- Classical Studies 327. Seminar in Byzantine History
- English 210. Old English Literary Tradition
- History 221. Problems in the Economic and Social History of Europe, 1200-1700
- Religion 206. Christian Mysticism in the Middle Ages
- Religion 251. The Counter-Reformation and the Development of Catholic Dogma
- Religion 344. Zwingli and the Origins of Reformed Theology

Microbiology and Immunology

Professor Wolfgang Karl Joklik, D.Phil. (Univ. of Oxford), *James B. Duke Professor of Microbiology and Immunology and Chairman*

Professor Hilda Pope Willett, Ph.D. (Duke), *Director of Graduate Studies*

Professors

D. Bernard Amos, M.D. (Guys Hospital, London), *James B. Duke Professor of Immunology*; Rebecca Buckley, M.D. (North Carolina at Chapel Hill); Richard O. Burns, Ph.D. (Illinois); Eugene D. Day, Ph.D. (Delaware); Richard S. Metzgar, Ph.D. (Buffalo); Suydam Osterhout, M.D. (Duke), Ph.D. (Rockefeller Inst.); Wendell Rosse, M.D. (Chicago); David W. Scott, Ph.D. (Yale); Ralph E. Smith, Ph.D. (Colorado); Ralph Snyderman, M.D. (SUNY, Downstate Med. Ctr.); Thomas C. Vanaman, Ph.D. (Duke); Frances E. Ward, Ph.D. (Brown); Robert W. Wheat, Ph.D. (Washington)

Associate Professors

Deepak Bastia, Ph.D. (Chicago); Dani P. Bolognesi, Ph.D. (Duke); Peter Cresswell, Ph.D. (Univ. of London); Jeffrey R. Dawson, Ph.D. (Case Western Reserve); Thomas G. Mitchell, Ph.D. (Tulane); Harvey J. Sage, Ph.D. (Yale); H. F. Seigler, M.D. (North Carolina at Chapel Hill)

Assistant Professors

Dolph O. Adams, M.D., Ph.D. (North Carolina at Chapel Hill); C. Edward Buckley III, M.D. (Duke); John Clifford Cambier, Ph.D. (Iowa); Ronald B. Corley, Ph.D. (Duke); Sharyn Endow, Ph.D. (Yale); Jack D. Keene, Ph.D. (Washington at Seattle); David R. McClay, Ph.D. (North Carolina at Chapel Hill); David Stephen Pisetsky, M.D., Ph.D. (Albert Einstein)

Associate Medical Research Professor

Hillel S. Koren, Ph.D. (Univ. of Freiburg)

Assistant Medical Research Professors

Mary Vickers Burdett, Ph.D. (Georgetown); Jeffrey J. Collins, Ph.D. (Harvard); William J. Hubbard, Ph.D. (Iowa State); Lawrence B. Lachman, Ph.D. (Boston); Sara Elizabeth Miller, Ph.D. (Georgia); W. David Sedwick, Ph.D. (Pennsylvania)

The department offers graduate work leading to the Ph.D. degree. Specialization is possible in molecular virology, viral oncology, cell biology, tumor biology, molecular microbiology, molecular genetics, immunochemistry, immunogenetics, cancer immunology, general immunology, and medical mycology.

Undergraduate preparation in the biological and physical sciences and in biochemistry is required. A brochure describing the Ph.D. degree program, prerequisites for admission, and research in the department can be obtained by writing the Director of Graduate Studies, Box 3020, Duke University Medical Center, Durham, North Carolina 27710.

Courses of Instruction

- 214. Fundamentals of Electron Microscopy
- 216. Experimental Immunochemistry

- 219. Molecular and Cellular Bases of Differentiation

219S. Seminar
 221. Medical Microbiology
 233. Principles of Microbiology and Immunology
 234. Introduction to Biostatistical Methods
 236. Statistical Methods in Human Genetics
 238. Intermediate Biostatistics and Data Analysis
 244. Principles of Immunology
 252. General Virology and Viral Oncology
 259. Molecular Biology I: Protein and Membrane Structure/Function
 264S. Chromosomes, DNA, and Evolution
 268. Molecular Biology II: Nucleic Acids
 269. Advanced Cell Biology
 291. Basic Immunology

296. Contemporary Molecular Immunology
 323. Readings in Microbiology and Immunology
 325. Medical Mycology
 330. Medical Immunology
 331.1-331.8. Microbiology Seminar
 332.1-332.8. Immunology Seminar
 336. Immunogenetics
 337. Immunobiology of the Macrophage

Courses Currently Unscheduled

242. Mechanisms of Microbial Pathogenicity
 282. Molecular Microbiology
 420. Cellular Immunophysiology

Musicology

Professor Fenner Douglass, M.M. (Oberlin), *Chairman*
 Associate Professor R. Larry Todd, Ph.D. (Yale), *Director of Graduate Studies*

Professor

Warren Kirkendale, Ph.D. (Univ. of Vienna)

Associate Professor

Tilman Seebass, Ph.D. (Univ. of Basel)

Assistant Professor

Jan Herlinger, Ph.D. (Chicago)

The Department of Music offers work leading to the A.M. and Ph.D. degrees in musicology. Applications are invited from students completing undergraduate curricula in music, as well as from qualified students in related disciplines. Non-degree students and especially graduate students from other departments may be admitted to graduate courses by consent of the instructor, according to their preparation. Students may be admitted to the Program in Medieval and Renaissance Studies (see the section on special programs in this bulletin).

A reading knowledge of one foreign language is required at admission; two are required for the A.M. (including German), and three for the Ph.D. (usually including German and Latin). Students are strongly urged to acquire as much language facility as possible before beginning graduate study.

A detailed description of the requirements for the A.M. and Ph.D. is available upon request from the Director of Graduate Studies. The student should refer also to the description of general requirements of the University found in the section on other requirements in this bulletin.

Courses of Instruction

201. Introduction to Musicology
 211. Medieval Notation
 212. Renaissance Notation
 221. Music in the Middle Ages: Monophony
 222. Music in the Middle Ages: Polyphony
 223. Music in the Renaissance
 224. Music in the Baroque Era
 225. Music in the Classic Era
 226. Music in the Romantic Era
 227. Music in the Postromantic and Modern Eras
 290. Independent Study
 311S. Seminar in Medieval Music

312S. Seminar in Renaissance Music
 313S. Seminar in Baroque Music
 314S. Seminar in the Classic Period
 315S. Seminar in Nineteenth- and Twentieth-Century Music
 331S. Music and Rhetoric (Sixteenth through Eighteenth Centuries)
 341S. Problems in Music Theory
 351S. Studies in Musical Iconography
 382S. Studies in Ethnomusicology
 392S. Interdisciplinary Colloquium

Specific topics of the seminars will be announced at least one semester in advance. Among the offerings may be "The Place of Music in Carolingian Culture," "Theory and Practice of Musica Ficta," "Monteverdi and His Time," "Basso Ostinato and Variation in the Baroque Era," "The Masses of Haydn, Mozart, and Beethoven," "Programmatic and Absolute Music in the Nineteenth Century," "Elements of Musical Acculturation in Bali and Lombok (Indonesia)," and "French Organ Music."

The University Program in Neurobiology

Professor Irving Diamond, Ph.D. (Chicago), *Director*

Professors

Robert Erickson, Ph.D. (Brown); George G. Somjen, M.D. (Univ. of New Zealand); Thomas C. Vanaman, Ph.D. (Duke)

Associate Professors

Doyle G. Graham, M.D., Ph.D. (Duke); William C. Hall, Ph.D. (Duke); Bernard Kaufman, Ph.D. (Indiana)

Assistant Professor

J. Victor Nadler, Ph.D. (Yale)

Recent advances in neurobiology have resulted in new methods, such as immunohistochemistry, and in closer ties among the various approaches to studying the nervous system. For example, research on the neuroanatomical basis of behavior is more dependent than ever before on the chemical and cellular study of neurons. To keep pace with these changes the program in neurobiology has been designed for a small number of students who wish to study the nervous system at several levels, ranging from the molecular to the behavioral. In planning course work, each student will be guided by an advisory committee whose members come from a variety of departments. All students will be advised to take courses in neuroanatomy, neurophysiology, neuropharmacology, and neuropsychology. The heart of the training is a research apprenticeship that leads to a Ph.D. dissertation. Each student must affiliate with one of the participating departments—atomy, biochemistry, microbiology and immunology, pathology, pharmacology, physiology, psychology, and zoology—and must meet all the requirements of that department for the Ph.D. degree. Normally, the dissertation adviser and the student will be members of the same department. A complete list of faculty, including research interests, will be made available to prospective students. *See course listings under the participating departments.*

Pathology

Professor Robert B. Jennings, M.D. (Northwestern), *James B. Duke Professor of Pathology and Chairman*
Professor Darell D. Bigner, M.D., Ph.D. (Duke), *Director of Graduate Studies*

Professors

Dolph O. Adams, M.D., Ph.D. (North Carolina at Chapel Hill); Edward H. Bossen, M.D. (Duke); William D. Bradford, M.D. (Western Reserve); Bernard F. Fetter, M.D. (Duke); Donald B. Hackel, M.D. (Harvard); William W. Johnston, M.D. (Duke); Gordon K. Klintworth, M.D., Ph.D. (Univ. of Witwatersrand); John A. Koepke, M.D. (Wisconsin at Madison); Philip Pratt, M.D. (Johns Hopkins); Joachim R. Sommer, M.D. (Munich); F. Stephen Vogel, M.D. (Western Reserve); Benjamin Wittels, M.D. (Minnesota)

Associate Professors

Peter C. Burger, M.D. (Northwestern); Jane G. Elchlepp, Ph.D. (Chicago), M.D. (Iowa); Doyle G. Graham, M.D., Ph.D. (Duke); Kenneth Scott McCarty, Jr., M.D., Ph.D. (Duke); Salvatore V. Pizzo, M.D., Ph.D. (Duke); Keith Arnold Reimer, M.D., Ph.D. (Northwestern); John D. Shelburne, M.D., Ph.D. (Duke); Peter Zwadyk, Jr., Ph.D. (Iowa)

Assistant Professors

Sandra H. Bigner, M.D. (Tennessee); Byron P. Croker, Jr., M.D., Ph.D. (Duke); Randy L. Jirtle, Ph.D. (Wisconsin); Carol W. Lewis, Ph.D. (North Carolina at Chapel Hill); George Michalopoulos, M.D., Ph.D. (Wisconsin); Alfred Paul Sanfilippo, M.D., Ph.D., (Duke); Stanley Clifford Schold, Jr., M.D. (Arizona); Robin T. Vollmer, M.D. (Duke)

Adjunct Associate Professor

James A. Swenberg, D.V.M. (Minnesota), Ph.D. (Ohio State)

Adjunct Assistant Professor

Arnold R. Brody, Ph.D. (Colorado State)

The Department of Pathology offers graduate work leading to the M.S. and Ph.D. degrees with areas of specialization such as subcellular and molecular pathology. Course work is designed to give a broad background in classical and modern pathology with emphasis on the application of modern research techniques. Students will be required to take such courses as are necessary to obtain a broad foundation, as well as courses applicable to areas of speciality and research. Further information including brochures giving details of departmental facilities, staff, trainee stipends, and the M.D.-Ph.D. program are available from the Director of Graduate Studies.

Courses of Instruction

219. Molecular and Cellular Bases of Differentiation
250. General Pathology
251. Laboratory Course in General Pathology
258. Cellular and Subcellular Pathology
275. Fundamentals of Electron Microscopy
325. Cardiovascular Pathology
353. Advanced Neuropathology
355. Graduate Seminar in Pathology
357. Research in Pathology
361, 362. Autopsy Pathology
364. Systemic Pathology
367. Special Topics in Pathology

369. Ophthalmic Pathology
370. Developmental Pathology and Teratology
374. Pulmonary Pathology and Postmortem Pathophysiology
377. Pathology of the Kidney
380. Diagnostic Immunology
381. Cancer Biology
382. General Pathology for Toxicologists
394. Immunobiology of the Macrophage

Courses Currently Unscheduled

360. Cytochemistry

Pharmacology

Professor Norman Kirshner, Ph.D. (Pennsylvania State), *Chairman*
Professor Elliott Mills, Ph.D. (Columbia), *Director of Graduate Studies*

Professor Emeritus

F. Bernheim, Ph.D. (Univ. of Cambridge), *James B. Duke Professor Emeritus of Pharmacology*

Professors

Everett H. Ellinwood, Jr., M.D. (North Carolina at Chapel Hill); Leon Lack, Ph.D. (Columbia); Daniel B. Menzel, Ph.D. (California at Berkeley); Athos Ottolenghi, M.D. (Univ. of Pavia); Saul M. Schanberg, Ph.D., M.D. (Yale); David G. Shand, M.B., Ph.D. (St. Bartholomew's Hosp. Med. Coll.); Theodore Alan Slotkin, Ph.D. (Rochester); Pelham Wilder, Jr., Ph.D. (Harvard)

Adjunct Professors

Pedro Cuatrecasas, M.D. (Washington); Charles Adam Nichol, Ph.D. (Wisconsin)

Associate Professors

Mohamed Bahie Abou-Donia, Ph.D. (California at Berkeley); James Norman Davis, M.D. (Cornell); Laura T. Gutman, M.D. (Stanford); Gerald M. Rosen, Ph.D. (Clarkson Coll. of Tech.); Harold C. Strauss, M.D. (McGill)

Adjunct Associate Professor

Oswaldo Humberto Viveros, M.D. (Univ. of Chile)

Assistant Professors

Thorir D. Bjornsson, M.D. (Univ. of Iceland); P. Michael Conn, Ph.D. (Baylor); James C. Fuchs, M.D. (Johns Hopkins), *Burroughs Wellcome Assistant Professor of Clinical Pharmacology*; Cynthia Moreton Kuhn, Ph.D. (Duke); James O. McNamara, M.D. (Michigan); J. Victor Nadler, Ph.D. (Yale); A. Richard Whorton, Ph.D. (Vanderbilt)

Associate Medical Research Professor

Wilkie Andrew Wilson, Jr., Ph.D. (Duke)

Assistant Medical Research Professors

Jorge V. Bartolome, Ph.D. (Chile); Brij Bhushan Shrivastav, Ph.D. (Western Ontario, Canada)

The Department of Pharmacology offers graduate work leading to the Ph.D. degree. The department considers a strong background in basic science as necessary, serious consideration being given to candidates with majors in biology, chemistry, mathematics, and physics. There is no foreign language requirement.

Courses of Instruction

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|---|---|
| 210, 211. Individual Study and Research | 331. Laboratory Methods in Pharmacology |
| 219. Tutorial in Pharmacology | 333. Principles of Pharmacology and Toxicology I |
| 250. Pharmacology: Mode Action of Drugs | 334. Principles of Pharmacology and Toxicology II |
| 256. Human Nutrition | 335. Cellular Pharmacology |
| 260S. Interactions of Differentiated Cells | 354. Mammalian Toxicology |
| 270. Neurobiology I | 360. Neuropharmacology |
| 280. Student Seminar in Pharmacology | 364. Neurotoxicology |
| 282. Teaching Methods in Pharmacology | 372. Research in Pharmacology |
| 301. Physical Chemistry of Aqueous Solutions | 417. Cellular Endocrinology |
| 330. Pharmacological Basis of Clinical Medicine | |

Philosophy

Professor Martin P. Golding, Ph.D. (Columbia), *Chairman*

Professor William Bernard Peach, Ph.D. (Harvard), *Director of Graduate Studies*

Professors

Edward P. Mahoney, Ph.D. (Columbia); David H. Sanford, Ph.D. (Cornell)

Associate Professors

Carl J. Posy, Ph.D. (Yale); George W. Roberts, Ph.D. (Cambridge)

Assistant Professors

Robert N. Brandon, Ph.D. (Harvard), *Andrew W. Mellon Assistant Professor of Philosophy*; Jon Fjeld, Ph.D. (Univ. of Toronto); Thomas E. Wartenberg, Ph.D. (Pittsburgh)

The Department of Philosophy offers graduate work leading to the A.M. and Ph.D. degrees. Tutorial work complements formal instruction. Students may specialize in any of the following fields: the history of philosophy, logic, philosophy of science, epistemology, metaphysics, philosophy of mind, philosophical analysis, ethics, aesthetics, political philosophy, philosophy of law, philosophy of medicine, and philosophy of religion.

Individual programs of study are developed for each student. The following requirement, however, is fundamental: the preliminary examination for the Ph.D., which may be taken only after a student has met the language requirement for that degree, should be taken after the second year of study. In these examinations students are expected to combine historical knowledge with critical understanding.

Work in a minor or related field, not necessarily confined to any one department, is encouraged but not required. A minor normally includes 6 units for the A.M. or the Ph.D. degree and may include more as a student's program requires or permits.

A student who meets the general requirements of the Graduate School may earn the A.M. degree in philosophy by passing an oral master's examination. This examination, which can be the defense of either a master's thesis or an alternative academic exercise approved by the department and the student's committee, is normally given in the student's fourth term of full-time registration. The examination can be given earlier in two special circumstances:

1. A student with a strong undergraduate background in philosophy who satisfies the department of his or her qualifications by submitting several samples of written work before beginning the program may be admitted to the master's program with the understanding that the master's examination can be given in the second or third term of full-time registration.

2. A student who combines the A.M. program in philosophy with another advanced degree program, such as the programs for the J.D., the M.D., or the Ph.D. in another field, will register as a full-time graduate student of philosophy for only two terms, the minimum registration that meets the general requirements of the Graduate School for the A.M. degree. These two terms of full-time registration need not be consecutive, and their position in the student's overall program is determined in individual cases. A student in a combined program will normally do some work in philosophy while registered in the student's primary program and do some work in the primary field while registered in philosophy. The master's examination can be given in the second term of full-time registration as a philosophy graduate student or in a later term when the student is registered in the primary program.

A student in the philosophy Ph.D. program who meets the general requirements of the Graduate School for the A.M. degree may earn this degree by passing the preliminary for the Ph.D. degree.

A reading knowledge of at least one foreign language, ancient or modern, is required for the Ph.D. degree. Students may not take their preliminary examinations until they have demonstrated this ability. More than one language may be required where this is judged appropriate to the research demanded by the candidate's dissertation.

Courses of Instruction

- 203S. Contemporary Ethical Theories
- 204S. Philosophy of Law
- 206S. Responsibility
- 208S. Political Values
- 211S. Plato
- 217S. Aristotle
- 218S. Medieval Philosophy
- 219S. Late Medieval and Renaissance Philosophy
- 225S. British Empiricism
- 227S. Continental Rationalism
- 228S. Recent and Contemporary Philosophy
- 231S. Kant's Critique of Pure Reason

- 232S. Recent Continental Philosophy
- 233S. Methodology of the Empirical Sciences
- 234S. Problems in the Philosophy of Science
- 235S. Hegel and Marx
- 251S. Epistemology
- 252S. Metaphysics
- 253S. Philosophy of Mind
- 254S. Philosophy of Religion
- 291S, 292S. Seminar in Special Fields of Philosophy
- 311. Philosophy and Medicine
- 331, 332. Seminar in Special Fields of Philosophy

Courses Currently Unscheduled

202S. Aesthetics: The Philosophy of Art
205S. Philosophy of History

230S. The Meaning of Religious Language
260S. Wittgenstein

Physical Therapy

Professor Robert Charles Bartlett, M.A. (New York Univ.), *Chairman*
Associate Professor Eleanor F. Branch, Ph.D. (Duke), *Director of Graduate Studies*

Associate Professor

Elia E. Villanueva, A.M. (Duke)

Assistant Professors

Pamela W. Duncan, M.A.C.T. (North Carolina at Chapel Hill); Grace C. Horton, M.S. (Duke);
Steven G. Nelson, Ph.D. (Duke)

Assistant Clinical Professors

Elaine M. Eckel, M.A. (North Carolina at Chapel Hill); Mary Ellen Riordan, M.S. (Wisconsin)

Associate

Linda K. George, Ph.D. (Duke)

The Department of Physical Therapy offers an entry level professional program leading to the M.S. degree. To be eligible for admission to the program, applicants must have obtained a baccalaureate degree and have a background in the basic sciences and social sciences, including course work in biology, chemistry, physics, and psychology.

The program is designed to provide for integration of classroom knowledge and clinical learning experiences essential for the competent practice of physical therapy. In view of this integrated curriculum, failure in a major course within a semester would prevent the student from continuing in the program. Major courses are all courses offered by the Department of Physical Therapy as well as required courses offered by the Department of Anatomy. A grade of *F* (or *noncredit* in the case of Physical Therapy 342, 343, and 344) in any of these courses will occasion withdrawal from the program. Program requirements also include a comprehensive examination, at the completion of the curriculum, and a research project. Further information may be obtained from the Director of Graduate Studies, Department of Physical Therapy, Box 3965, Duke University Medical Center, Durham, North Carolina 27710.

Courses of Instruction

210. Independent Study
301. Introduction to Scientific Inquiry
302. Research
303. Research
313, 314. Physical Agents
317. Kinesiology
318. Arthrology and Pathokinesiology
319. Introduction to Evaluation and Patient Care
320. Evaluation and Therapeutic Procedures I
321. Evaluation and Therapeutic Procedures II
322. Evaluation and Therapeutic Procedures III
324. Prosthetics and Orthotics

332. Physical Therapy and Health Services:
Administration and Issues
334. Introductory Pathology
336. Medical Sciences
340. Special Topics in Physical Therapy
342. Directed Clinical Experience in Physical
Therapy I
343. Directed Clinical Experience in Physical
Therapy II
344. Directed Clinical Experience in Physical
Therapy III

Physics

Professor Harold W. Lewis, Ph.D. (Duke), *University Distinguished Service Professor of Physics and Chairman*
Professor Henry A. Fairbank, Ph.D., (Yale), *Director of Graduate Studies*

Professors

L. C. Biedenharn, Jr., Ph.D. (Massachusetts Inst. of Tech.); Edward G. Bilpuch, Ph.D. (North Carolina at Chapel Hill); Ron Y. Cusson, Ph.D. (California Inst. of Tech.); Lawrence E. Evans, Ph.D. (Johns Hopkins); Moo-Young Han, Ph.D. (Rochester); Johannes Horst Max Meyer, Ph.D. (Univ. of Geneva); N. Russell Roberson, Ph.D. (Johns Hopkins); Hugh G. Robinson, Ph.D. (Duke); William D. Walker, Ph.D., (Cornell); Richard L. Walter, Ph.D. (Notre Dame); Henry R. Weller, Ph.D. (Duke)

Adjunct Professors

Fearghus O'Foghludha, Ph.D. (National Univ. of Ireland); Herman Robl, Ph.D. (Univ. of Vienna); Katherine Way, Ph.D. (North Carolina at Chapel Hill)

Associate Professors

Frank C. De Lucia, Ph.D. (Duke); Lloyd R. Fortney, Ph.D. (Wisconsin); Alfred T. Goshaw, Ph.D. (Wisconsin); Eric Herbst, Ph.D. (Harvard)

Assistant Professors

Robert Paul Behringer, Ph.D. (Duke); Peter W. Lucas, Ph.D. (Yale); Richard G. Palmer, Ph.D. (Cambridge)

The Department of Physics offers graduate work for students wishing to earn the A.M. or Ph.D. degree. In addition to a balanced program of basic graduate courses, the department offers specialized courses and seminars in several fields in which research is being done by faculty and staff.

With the help of faculty advisers, students select a course program to fit their needs, including work in a related field, usually mathematics or chemistry. Students are encouraged to begin research work early in their careers.

Courses of Instruction

211, 212. Modern Physics
214. Introduction to Solid-State Physics
215. Introduction to Quantum Mechanics
217S, 218S. Advanced Physics Laboratory and Seminar
220. Electronics
240. Computer Application to Physical Measurement
255. Astronomy for Teachers
302. Advanced Mechanics
303. Statistical Mechanics
305. Introduction to Nuclear Physics
308. Introduction to High-Energy Physics
309. Solid-State Physics I
310. Solid-State Physics II*
316. Principles of Quantum Theory
317. Intermediate Quantum Theory
318. Electromagnetic Field Theory

331. Quantum Electronics*
341. Advanced Topics in Quantum Theory*
346. Topics in Theoretical Physics*

Courses Currently Unscheduled

304. Advanced Topics in Statistical Mechanics
306. Low Temperature Physics
312. Phase Transitions and Critical Phenomena
330. Nuclear Structure Theory
333. Molecular Reaction Dynamics
335. Molecular Spectroscopy
342. Theory of Elementary Particles
343. Nuclear Physics
344. Advanced Nuclear Physics
345. High-Energy Physics
351, 352. Seminar
397, 398. Low Temperature and Solid-State Seminar

Physiology

Professor E. A. Johnson, M.D. (Univ. of Sheffield), *James B. Duke Professor of Physiology and Chairman*
Associate Professor T. J. McManus, M.D. (Boston), *Director of Graduate Studies*

Professors

J. J. Blum, Ph.D. (Chicago), *James B. Duke Professor of Physiology*; Irving Diamond, Ph.D. (Chicago); J. Gutknecht, Ph.D. (North Carolina at Chapel Hill); F. Jöbsis, Ph.D. (Michigan); P. K. Lauf, M.D. (Univ. of Freiburg); Melvyn Lieberman, Ph.D. (SUNY, Downstate Med. Center); Lorne Mendell,

*Offered on demand.

Ph.D. (Massachusetts Inst. of Tech.); J. W. Moore, Ph.D. (Virginia); Jacqueline A. Reynolds, Ph.D. (Washington); J. V. Salzano, Ph.D. (Iowa); Knut Schmidt-Nielsen, Ph.D. (Univ. of Copenhagen); G. Somjen, M.D. (Univ. of New Zealand); Madison S. Spach, M.D. (Duke); Charles Tanford, Ph.D. (Princeton), *James B. Duke Professor of Physiology*; Andrew G. Wallace, M.D. (Duke)

Associate Professors

Nels C. Anderson, Ph.D. (Purdue); Peter Brian Bennett, Ph.D. (Univ. of Southampton); Robert P. Erickson, Ph.D. (Brown); Joseph C. Greenfield, M.D. (Emory); Johannes A. Kylstra, M.D., Ph.D. (Univ. of Leiden); Harold E. Lebovitz, M.D. (Pittsburgh); Lazaro J. Mandel, Ph.D. (Pennsylvania); Elliott Mills, Ph.D. (Columbia); G. M. Padilla, Ph.D. (California at Los Angeles); Fidel Ramón, Ph.D. (Duke); David W. Schomberg, Ph.D. (Purdue); Sidney A. Simon, Ph.D. (Northwestern); Howard Wachtel, Ph.D. (New York Univ.); Myron Wolbarsht, Ph.D. (Johns Hopkins)

Adjunct Associate Professor

James M. Schooler, Jr., Ph.D. (Wisconsin)

Assistant Professors

Page A. W. Anderson, M.D. (Duke); Enrico Mario Camporesi, M.D. (Univ. of Milan); Vincent W. Dennis, M.D. (Georgetown); Rayford S. Jones, M.D. (Texas); Andrew S. Wechsler, M.D. (SUNY, Downstate Med. Ctr.); William E. Yarger, M.D. (Baylor)

Adjunct Assistant Professors

Reginald D. Carter, Ph.D. (Bowman Gray); C. Russell Horres, Jr., Ph.D. (Duke); Philip A. McHale, Ph.D. (Duke)

Assistant Medical Research Professors

Gilbert Baumann, Dr.Sc. (Swiss Federal Inst. of Tech.); Hie Ping Beall, Ph.D. (Tulane); Michael Lee Hines, Ph.D. (Chicago); Thomas Russell Snow, Ph.D. (Duke); Avis L. Sylvia, Ph.D. (North Carolina at Chapel Hill)

The Department of Physiology offers graduate work leading to the Ph.D. degree. Before undertaking this program a student should have a strong background in basic sciences including course work in mathematics, biology, physics, and chemistry through physical chemistry. Undergraduates with this background may have majors in any of the following areas: biology, chemistry, physics, mathematics, engineering, or computer sciences. There is no foreign language requirement.

Courses of Instruction

- 200. Introduction to Physiology
- 203. Introduction to Biophysics and Biophysical Chemistry
- 204. Introduction to Modern Physiology
- 207. The Heart in Health and Disease
- 208. Respiratory System in Health and Disease
- 210. Individual Study
- 217. Membrane Transport
- 219S. Membrane Physiology
- 230. Molecular and Cellular Bases of Differentiation
- 230S. Seminar
- 260S. Interactions of Differentiated Cells
- 270. Neurobiology I
- 272. Physiology of the Central Nervous System
- 280. Student Seminar in Physiology
- 281. Teaching in Physiology
- 301. Oxygen and Physiological Function

- 302. Advanced Topics and Research Seminar in Smooth and Striated Muscle
- 320. Gastrointestinal Physiology
- 321. Renal Physiology
- 362. Cardiac Muscle Physiology
- 372. Research in Physiology
- 383. Physiological Instrumentation
- 390. Membrane Biology
- 401. Metabolic Physiology
- 416. Biophysics of Excitable Membranes
- 417. Cellular Endocrinology
- 418. Reproductive Biology
- 424. Seminar in Reproductive Biology

Courses Currently Unscheduled

- 419. Topics in Mathematical Physiology
- 420. Cellular Immunophysiology

Political Science

Professor Ole R. Holsti, Ph.D. (Stanford), *George V. Allen Professor of Political Science and Chairman*
 Professor David E. Price, B.D., Ph.D. (Yale), *Director of Graduate Studies*

Professors

James David Barber, Ph.D. (Yale), *James B. Duke Professor of Political Science*; Ralph Braibanti, Ph.D. (Syracuse), *James B. Duke Professor of Political Science*; Frederic N. Cleaveland, Ph.D. (Princeton); Peter Fish, Ph.D. (Johns Hopkins); Hugh Marshall Hall, Jr., Ph.D. (Texas); John Hamilton Hallowell, Ph.D. (Princeton), *James B. Duke Professor of Political Science*; Donald L. Horowitz, LL.M., Ph.D. (Harvard); Jerry F. Hough, Ph.D. (Harvard); Allan Kornberg, Ph.D. (Michigan); Richard H. Leach, Ph.D. (Princeton); David Paletz, Ph.D. (California at Los Angeles); Thomas A. Spragens, Jr., Ph.D. (Duke)

Associate Professors

Albert Eldridge, Ph.D. (Kentucky); Sheridan Johns III, Ph.D. (Harvard); Margaret A. McKean, Ph.D. (California at Berkeley); Arturo Valenzuela, Ph.D. (Columbia)

Part-Time Associate Professor

Jean F. O'Barr, Ph.D. (Northwestern)

Assistant Professors

David J. Falcone, Ph.D., M.H.A. (Duke); John F. Hoadley, Ph.D. (North Carolina at Chapel Hill); Joseph J. Kruzel, Ph.D. (Harvard)

The Department of Political Science offers graduate work leading to the A.M. and Ph.D. degrees. Before being admitted to candidacy for the Ph.D. degree, an applicant must have qualified for the A.M. degree.

Instruction is designed to prepare the student for teaching and research, for government service, and for other work related to public affairs. Before undertaking graduate study in political science, a student is ordinarily expected to have completed at least 12 semester hours of course work in political science. Instruction is currently offered in the following fields: American government and politics, comparative government and politics, political theory, and international relations.

The candidate for the degree of Doctor of Philosophy in political science must take at least sixteen courses in all, including twelve in the department, and demonstrate competence in at least two general fields of the discipline as well as in a third general field or in a specialized subfield or in a field external to the department. The candidate must also demonstrate a reading knowledge of two foreign languages or must demonstrate proficiency in one foreign language and in the use of statistics.

The terminal degree of Master of Arts, for those who do not intend to continue with doctoral studies, is awarded following successful completion of: (1) eight one-semester courses of 3 units each, at least half of which must be in political science; and (2) the A.M. thesis. In addition, candidates for the A.M. degree must demonstrate competence in one foreign language or in statistics.

Further details on the graduate program in political science, the departmental facilities, the staff, and available financial aid may be obtained from the Director of Graduate Studies, Department of Political Science.

Courses of Instruction

201S. Problems in International Security
203. Politics and the Media of Mass Communication
204S. Ethics in Political Life
205S. Science, Politics, and Government
207. American Constitutional Interpretation
208S. Analyzing the News
209. Problems in State Government and Politics
211S. Current Problems and Issues in Japanese Politics
217S. Economic Theories of Political Behavior
218S, 219S. Political Thought in the United States

220S. Problems in International Politics
223. Political Philosophy from Plato to Machiavelli
224. Modern Political Theory
225. Comparative Government and Politics: Western Europe
226. Theories of International Relations
227. International Law
229. Recent and Contemporary Political Theory
233. Research Methodology
235S. Comparative Development of Islam
236. Statistical Analysis
239S. Current Problems of International Law

244S. Administrative Law and Process
 245S. Ethics and Policy Making
 246. Administration and Public Policy
 248. The Politics of the Policy Process
 249. Comparative International Development and Technology Flow
 253. Comparative Government and the Study of Latin America
 260. The Tradition of Political Inquiry
 262S. International Communism
 275. The American Party System
 277. Comparative Party Politics
 280S. Comparative Government and Politics: Sub-Saharan Africa
 282S. Canada
 283S. Congressional Policy Making
 286S. Judicial Administration
 293. Federalism
 302. Departmental Research Seminar
 303. Seminar on Selected Topics in Statistics
 308. Individual Research

309. Seminar in International Relations
 321. Seminar in Political Theory
 325. Seminar in Comparative Government and Politics
 340. Seminar in American Politics and Institutions
 381. Research Seminar in Latin American Government and Politics

Courses Currently Unscheduled

215. Comparative Legislative Processes
 221. International Organization
 234S. Political Economy of Development: Theories of Change in the Third World
 250. Comparative Government and Politics: Southern Asia
 285. The Judicial Process
 360. Seminar in Government and Politics in the Soviet Union

Related Course Work in the School of Law

There may be graduate credit for course work completed in the Duke University School of Law, under regulations referred to in the larger Graduate School bulletin (see the section on academic regulations in the chapter "Registration and Regulations" in that bulletin).

Psychology

Professor Robert Charles Carson, Ph.D. (Northwestern), *Chairman*

Professor Gregory Roger Lockhead, Ph.D. (Johns Hopkins), *Director of Graduate Studies*

Professors

Irving Emanuel Alexander, Ph.D. (Princeton); William Bevan, Ph.D. (Duke), *William Preston Few Professor of Psychology*; Lloyd Joseph Borstelmann, Ph.D. (California at Berkeley); Philip R. Costanzo, Ph.D. (Florida); Irving Thomas Diamond, Ph.D. (Chicago), *James B. Duke Professor of Psychology*; Carl John Erickson, Ph.D. (Rutgers); Robert Porter Erickson, Ph.D. (Brown); Norman Guttman, Ph.D. (Indiana); Gregory A. Kimble, Ph.D. (Iowa); Martin Lakin, Ph.D. (Chicago); Harold Schiffman, Ph.D. (Princeton); John Staddon, Ph.D. (Harvard); Michael A. Wallach, Ph.D. (Harvard); Cliff Waldron Wing, Jr., Ph.D. (Tulane)

Adjunct Professors

H. Keith H. Brodie, M.D. (Columbia); David P. Campbell, Ph.D. (Minnesota); Herbert Floyd Crovitz, Ph.D. (Duke)

Associate Professors

John H. Casseday, Ph.D. (Indiana); John Coie, Ph.D. (California at Berkeley); Ruth S. Day, Ph.D. (Stanford); Carol Eckerman, Ph.D. (Columbia); William C. Hall, Ph.D. (Duke); John B. McConahay, Ph.D. (California at Los Angeles); Susan Roth, Ph.D. (Northwestern); David Charles Rubin, Ph.D. (Harvard)

Assistant Professors

Clifford A. Butzin, Ph.D. (California at San Diego); Irwin Kremen, Ph.D. (Harvard)

Lecturers

Eugene Buckingham, Ph.D. (Columbia); Kenneth E. Clark, Ph.D. (Ohio State); Charles N. Cofer, Ph.D. (Brown); Ralph L. Cooper, Ph.D. (Rutgers); Warren Grimes Hall, Ph.D. (Johns Hopkins); Steven Henry Herman, Ph.D. (Duke); Andrew P. King, Ph.D. (Cornell); Patrick E. Logue, Ph.D. (North Dakota); Gail R. Marsh, Ph.D. (Iowa); Ellis B. Page, Ed.D. (California at Los Angeles); John W. Payne, Ph.D. (California at Irvine); Rolffs S. Pinkerton, Ph.D. (Georgia); Robert N.

Sawyer, Ed.D. (Wyoming); Susan S. Schiffman, Ph.D. (Duke); Robert H. Shipley, Ph.D. (Michigan State); George G. Somjen, M.D. (New Zealand); Richard Samuel Surwit, Ph.D. (McGill); Robert J. Thompson, Jr., Ph.D. (North Dakota); Lise Wallach, Ph.D. (Kansas); Redford Brown Williams, Jr., M.D. (Yale); M. L. Wolbarsht, Ph.D. (Johns Hopkins)

The department offers work leading to the Ph.D. degree. The areas of concentration are experimental, biological, cognitive, personality, developmental, clinical, and social-human development psychology. Students in experimental, biological, and cognitive psychology may have undergraduate majors in psychology, computer science, engineering or one of the basic sciences: mathematics, physics, biology, or chemistry.

A brochure is available from the Director of Graduate Studies which describes the program in more detail and gives information on financial assistance, facilities, and current research activities.

Courses of Instruction

203S. Sensation and Perception
 210S. Cognitive Psychology
 212S. Human Memory
 214S. Development of Social Interaction
 215S. Cognitive Development
 216S. Biological Psychology
 218S. Research Methods in Social Psychology
 219S. Neural Bases of Behavior
 230S. Social Behavior of Animals
 234S. Personality
 238S. Electroencephalogram and Psychological Function
 245S. Personality Theory
 253S. Psychological Approaches to Public Policy Analysis
 260S. Science, Technology, and Society
 261S. Science, Politics, and Government
 271S. A-F. Selected Problems
 272S. Physiology of the Central Nervous System
 273S, 274S. Statistical Principles in Experimental Design
 283S, 284S. The History of Psychology

286S. Psychophysiology of Hearing
 295S. Group Psychotherapy and Processes
 305. Psychopathology
 307. Introduction to Methods in Psychotherapy
 309. Seminar in Learning
 310. Seminar in Perception
 318. Methods of Inquiry
 319-320. Research Apprenticeship I
 323, 324. Seminar in Community Psychology
 325. Seminar in Animal Behavior
 331-332. Research Apprenticeship II
 335-336. Clinical Inquiry I
 337. Seminar in Sensory Discrimination
 343-344. Clinical Inquiry II
 350. Practicum in Psychological Research

Courses Currently Unscheduled

217S. Social Psychology
 329-330. Proseminar in Psychology
 334. Seminar: Behavioral Studies of the Brain
 338. Pictorial Representation and Iconic Communication

Public Policy Studies

Professor Joel Lawrence Fleishman, LL.M. (Yale), *Director*
 Associate Professor Philip J. Cook, Ph.D. (California at Berkeley), *Associate Director*
 Assistant Professor Barbara Devaney, Ph.D. (Michigan), *Director of Graduate Studies*
 Bonnie Bain, *Director of Internship Programs and Placement Services*

Professors

James David Barber, Ph.D. (Yale); Colin C. Blaydon, Ph.D. (Harvard); David M. Eddy, M.D. (Virginia), Ph.D. (Stanford); Henry Geller, J.D. (Northwestern); Donald L. Horowitz, LL.M., Ph.D. (Harvard); Jerry F. Hough, Ph.D. (Harvard); David L. Lange, LL.B. (Illinois); David E. Price, B.D., Ph.D. (Yale); W. Kip Viscusi, Ph.D. (Harvard); Duncan Yaggy, Ph.D. (Brandeis)

Associate Professors

Robert D. Behn, Ph.D. (Harvard); Charles T. Clotfelter, Ph.D. (Harvard); Joseph Lipscomb, Jr., Ph.D. (Vanderbilt); Wesley A. Magat, Ph.D. (Northwestern); John B. McConahay, Ph.D. (California at Los Angeles); Carol B. Stack, Ph.D. (Illinois); James W. Vaupel, Ph.D. (Harvard)

Assistant Professors

Robert M. Entman, Ph.D. (Yale); Bruce R. Kuniholm, Ph.D. (Duke); Michael I. Luger, Ph.D. (California at Berkeley)

Visiting Assistant Professor

Catherine Hawes, Ph.D. (Texas)

Lecturer

Bruce L. Payne, M.A. (Yale)

The graduate program in public policy studies is offered through the Institute of Policy Sciences and Public Affairs. The objective of the program is to prepare students for public sector jobs which require analytical skills and a practical understanding of the processes by which policy is made and implemented.

The A.M. degree requires two academic years and a summer internship. The first year is devoted to core courses in policy analysis, including sequences in quantitative methods, economics, political analysis, and ethics. The summer internship is arranged with a federal or state agency. The second-year curriculum includes course work in public management, a concentration in a substantive policy area, and a masters "memo" to be researched and written on a problem of current policy concern.

Students who are concurrently enrolled in a Ph.D. program or a professional degree program (M.D., J.D., M.B.A., M.H.A., etc.) or who have already obtained such a degree, can apply for an abbreviated version of the A.M. program. Such students are excused from all the requirements of the second year except for the masters memo, so ordinarily completing the A.M. requirements adds only one year to their graduate programs. Students usually apply for a joint degree program simultaneously with their applications to the graduate departments or professional schools, or during their first or second year of advanced study.

The institute does not award a Ph.D.

More information concerning the A.M. programs can be obtained by writing the Director of Graduate Studies.

Courses of Instruction

- 204S. Ethics in Political Life
- 206S. Contemporary Social Journalism
- 207S. Mass Media, Public Opinion, and Public Policy
- 215S. Public Policies to Save Lives
- 217. Microeconomics and Public Policy Making
- 218. Macroeconomic Policy
- 219. The Politics of the Policy Process
- 221. Analytical Methods I: Decision Analysis for Public Policy Makers
- 222. Analytical Methods II: Data Analysis for Public Policy Makers
- 223S. Ethics and Policy Making
- 231. Analytical Methods III: Quantitative Policy Evaluation
- 232. Analytical Methods IV: Topics in Economic Policy
- 236S, 237S. Public Budgeting and Management I and II
- 240S. Analyzing the News
- 250. Public Policy and the Arts
- 253S. Psychological Approaches to Public Policy
- 254. Transportation Planning and Policy Analysis
- 255S. Science, Politics, and Government
- 257. United States Policy in the Middle East

- 261S. Research Seminar: Health Policy
- 264S. Research Seminar: Topics in Public Policy I
- 266. The Politics of Health Finance and Regulation
- 268. Federal Tax Policy
- 270S. Humanistic Perspectives on Public Policy
- 276S. National Policies and the Family
- 283S. Congressional Policy Making
- 303. Public Policy Workshop I
- 304.01. Public Policy Workshop II
- 305.01. Public Policy Workshop III
- 387. Research Tutorial in Public Policy
- 388. Research Tutorial in Public Policy
- 399. Special Readings in Public Policy Studies

Courses Currently Unscheduled

- 224. Applications of Administrative and Organizational Theory
- 252S. National Security Policy
- 256. The Economics of Health Care
- 260S. Research Seminar: The Administration of Justice
- 262S. Communication Policy and the Law
- 273S. The Uses of History in Public Policy II

Religion

Associate Professor Kalman P. Bland, Ph.D. (Brandeis), *Chairman*
Professor Eric M. Meyers, Ph.D. (Harvard), *Director of Graduate Studies*

Research Professor Emeritus

Robert E. Cushman, Ph.D. (Yale)

Professors

William W. Beach, Ph.D. (Yale); David G. Bradley, Ph.D. (Yale); Stuart C. Henry, Ph.D. (Duke); Frederick Herzog, Th.D. (Princeton); Wesley A. Kort, Ph.D. (Chicago); Creighton Lacy, Ph.D. (Yale); Thomas A. Langford, Ph.D. (Duke); Bruce B. Lawrence, Ph.D. (Yale); C. Eric Lincoln, Ph.D. (Boston); Charles Houston Long, Ph.D. (Chicago); Roland E. Murphy, S.T.D. (Catholic Univ. of America); Robert T. Osborn, Ph.D. (Drew); William H. Poteat, Ph.D. (Duke); James Ligon Price, Jr., Ph.D. (Univ. of Cambridge); D. Moody Smith, Ph.D. (Yale); Harmon L. Smith, Ph.D. (Duke); David Curtis Steinmetz, Th.D. (Harvard); Orval S. Wintermute, Ph.D. (Johns Hopkins); Franklin W. Young, Ph.D. (Duke), *Amos Ragan Kearns Professor of New Testament and Patristic Studies*

Associate Professors

Lloyd R. Bailey, Ph.D. (Hebrew Union Coll., Jerusalem); James H. Charlesworth, Ph.D. (Duke); Roger J. Corless, Ph.D. (Wisconsin); Robert C. Gregg, Ph.D. (Pennsylvania); Harry B. Partin, Ph.D. (Chicago)

Assistant Professor

Carol L. Meyers, Ph.D. (Brandeis)

The Department of Religion offers graduate work leading to the A.M. and Ph.D. degrees. Students may major in one of seven fields: (1) Old Testament and Semitic studies, (2) New Testament and Christian origins, (3) history of Christianity, (4) Christian theology and ethics, (5) history of Judaism, (6) history of religions, and (7) religion and culture. They will be expected to take courses which will contribute to an adequate understanding of their chosen fields of specialization and will be required to take two written preliminary examinations within their field of concentration.

In addition to course work in their major field, students will take such other courses in cognate fields as will contribute to the enrichment of their major studies and will be required to take one written preliminary examination in a single cognate area within the department. A minor requirement may be fulfilled by work in a cognate department, such as classical studies, history, philosophy, political science, or sociology, and will constitute the outside minor and material for a fourth written preliminary examination. There is, in addition, an oral examination conducted by the student's committee immediately subsequent to the written examinations.

The program of doctoral studies presumes a foundation in the academic study of religion. Students applying for graduate work in religion directly from an undergraduate program should have had a strong undergraduate major in religion, and will be accepted for the Ph.D. program only upon the satisfactory completion of the A.M. degree with the department.

The graduate program also offers an A.M. degree that is not linked to a specific Ph.D. field. Such study is intended to encourage individuals to pursue a variety of interests irrespective of whether they desire further graduate study. An A.M. concentration may be in any of the seven Ph.D. fields or in an individually designed program of study (such as Islamic studies or religion and the social sciences).

Courses of Instruction

207, 208. Intermediate Biblical Hebrew

209. Old Testament Theology

217. Islam in India

219. Augustine

220. Rabbinic Hebrew

221. Readings in Hebrew Biblical Commentaries

223A. Exegesis of the Hebrew Old Testament:
Amos and Hosea

225. Living Issues in New Testament Theology

226A-F. Exegesis of the Greek New Testament I

227A-B. Exegesis of the Greek New Testament II

230S. The Meaning of Religious Language

- 231. Seminar in Religion and Contemporary Thought
- 233. Modern Narratives and Religious Meanings
- 237. History of the Ancient Near East
- 238. Jewish Responses to Christianity
- 239. Introduction to Middle Egyptian
- 241. Problems in Reformation Theology
- 242. Life after Death in Semitic Thought
- 243. Archaeology of Palestine in Biblical Times
- 244. The Archaeology of Palestine in Hellenistic-Roman Times
- 245. Ethics in World Religions
- 248. The Theology of Karl Barth
- 252. Nineteenth- and Twentieth-Century Roman Catholic Theology
- 254. Introduction to African Religions
- 255. Seminar in African Religions
- 258. Coptic
- 262. Marxist Ideology and Christian Faith
- 264. The Sociology of the Black Church
- 265. The Religions of the West Africa Diaspora
- 280. The History of Religions
- 281. Phenomenology and Religion
- 284. The Religion and History of Islam
- 287. The Scriptures of Asia
- 290. Current Problems in Christian Social Ethics
- 291. Historical Forms of Protestant Ethics
- 296. Religion on the American Frontier
- 301. Seminar in Contemporary Christian Ethics
- 302. Studies in the Intertestamental Literature
- 304. Aramaic
- 304A. Targumic Aramaic
- 306. Language and Literature of the Dead Sea Scrolls
- 308. Greek Patristic Texts
- 310. Readings in Judaica
- 318. Seminar in the Greek Fathers
- 322. Nineteenth-Century European Theology
- 323A. Comparative Semitic II
- 323B. Comparative Semitic I
- 324. Readings in the History of Religion
- 325. Philosophical Theology I
- 327. Philosophical Method in Religious Studies
- 338. Calvin and the Reformed Tradition
- 339. The Radical Reformation
- 340-341. Seminar in the New Testament
- 350-351. Old Testament Seminar
- 360. Special Problems in Religion and Culture
- 370. Seminar in Religion and Literature
- 373-374. Elementary Akkadian
- 377. Contemporary American Dramatic Arts and Evolving Theological Forms
- 380. Existentialist Thought
- 383. Moral Theology in the Twentieth Century
- 384. Religious Dissent in American Culture
- 386. Christianity in Dialogue with Other Faiths
- 387. Ethical Method

- 388. Ethics and Medicine
- 395. Christian Thought in Colonial America
- 396. Liberal Traditions in American Theology
- 397. Contemporary American Theology

Courses Currently Unscheduled

- 204. Origen
- 206. Christian Mysticism in the Middle Ages
- 210. Contemporary British Theology
- 218. Religion in Japan
- 223B. Exegesis of the Hebrew Old Testament: Job
- 223C. Exegesis of the Hebrew Old Testament: Exodus
- 223D. Exegesis of the Hebrew Old Testament: Song of Songs
- 223E. Exegesis of the Hebrew Old Testament: Ecclesiastes
- 227C. Exegesis of the Greek New Testament II (The Pastoral Epistles)
- 232. Methods in Religion and Literature
- 236. Luther and the Reformation in Germany
- 246. Problems in Historical Theology
- 247. Readings in Latin Theological Literature
- 251. The Counter-Reformation and the Development of Catholic Dogma
- 282. Myth and Ritual
- 288. Buddhist Thought and Practice
- 300. Systematic Theology
- 307. Syriac
- 311. Pharisaic Judaism in the First Century
- 312. Pauline Theology
- 313. The Apostolic Fathers
- 314. Judaism and Christianity in the New Testament
- 315-316. Seminar: History of Religions
- 317. Seminar in the Greek Apologists
- 319. The Gospel According to St. Matthew in Recent Research
- 320. Theology, Power, and Justice
- 326. Philosophical Theology II
- 328. Twentieth-Century European Theology
- 334. Theology and Reform in the Later Middle Ages
- 335. The English Church in the Eighteenth Century
- 337. Theology of St. Thomas Aquinas
- 344. Zwingli and the Origins of Reformed Theology
- 352. Seminar in Christian Theology
- 353. Seminar on Text Criticism
- 385. Religion in American Literature
- 389. Christian Ethics and Contemporary Culture
- 394. Christianity and the State
- 398. Colloquium on the College and University Teaching of Religion
- 401. Colloquium in Biblical Studies

Romance Languages

Professor Phillip Stewart, Ph.D. (Yale), *Chairman and Director of Graduate Studies*

Professors

Thomas Howard Cordle, Ph.D. (Yale); John Morton Fein, Ph.D. (Harvard); Rafael Osuna, Ph.D.

(Brown); Marcel Tetel, Ph.D. (Wisconsin); Bruce W. Wardropper, Ph.D. (Pennsylvania), *William H. Wannamaker Professor of Romance Languages*

Associate Professors

Ernesto Caserta, Ph.D. (Harvard); Miguel Garci-Gómez, Ph.D. (Catholic Univ.); Alexander Hull, Ph.D. (Washington); Linda Orr, Ph.D. (Yale); Jean-Jacques Thomas, Doctorat de 3e Cycle (Univ. of Paris); Patrick R. Vincent, Ph.D. (Johns Hopkins)

Assistant Professors

Inez K. Hedges, Ph.D. (Wisconsin); Gustavo F. Pérez, Ph.D. (Michigan)

The Department of Romance Languages offers graduate work leading to the A.M. and Ph.D. degrees in French and Spanish. Requirements for the A.M. may be completed by submission of a thesis or by passing a comprehensive examination in the major field. It is hoped that candidates for the A.M. and Ph.D. degrees will take related work in a second Romance language; however, related work may be taken in any one or two of a number of other subject areas.

In order to undertake graduate study in Romance languages, the entering student should have credit for at least eighteen semester hours (or equivalent) above the intermediate level in the major language.

French

Courses of Instruction

- 210. The Structure of French
- 211. History of the French Language
- 223. Semiotics for Literature
- 240. Old French Literature
- 248. French Literature of the Seventeenth Century
- 251, 252. Literature of the Eighteenth Century
- 255. French Preromantic and Romantic Poetry
- 256. Modern Literature and History
- 257, 258. The Nineteenth-Century French Novel
- 261. French Symbolism
- 263. Contemporary French Theater
- 264. Proust
- 265, 266. French Literature of the Twentieth Century
- 290S. Studies in a Contemporary Figure
- 325. French Prose of the Sixteenth Century
- 326. Topics in Renaissance Poetry
- 391, 392. French Seminar
- . Graduate Reading Course

Italian

Courses of Instruction

- 283. Italian Novel of the Novecento
- 284. Dante
- 285. Dante

Spanish

Courses of Instruction

- 210. History of the Spanish Language
- 245, 246. Modern and Contemporary Spanish American Literature
- 251. The Origins of Spanish Prose Fiction
- 253. Cervantes
- 254. Drama of the Golden Age
- 258S. Spanish Lyric Poetry before 1700
- 275. Modern Spanish Poetry
- 276. Modern Spanish Drama
- 277. Modern Spanish Novel
- 391, 392. Hispanic Seminar

Romance Languages

Courses of Instruction

- 218. The Teaching of Romance Languages

Slavic Languages and Literatures

Professor Magnus J. Krynski, Ph.D. (Columbia), *Chairman*

Associate Professor

Bronislas de Leval Jezierski, Ph.D. (Harvard)

The Department of Slavic Languages and Literatures offers graduate courses in Russian language and literature and limited training in the language and literature of Poland.

Students should have sufficient preparation in the Russian language to enable them to read Russian classical literature in the original. Any presently unscheduled course will be taught in any semester upon request.

Courses of Instruction

201, 202. Russian Novel of the Nineteenth Century
225S. Tolstoy
230. Chekhov
232. Dostoevsky

Courses Currently Unscheduled

206. Readings in Contemporary Polish Prose in the Original
207. Soviet Literature and Culture

Sociology

Professor Alan C. Kerckhoff, Ph.D. (Wisconsin), *Chairman*
Professor Joel Smith, Ph.D. (Northwestern), *Director of Graduate Studies*

Professors

Kurt W. Back, Ph.D. (Massachusetts Inst. of Tech.), *James B. Duke Professor of Sociology*; John C. McKinney, Ph.D. (Michigan State); George L. Maddox, Jr., Ph.D. (Michigan State); George C. Myers, Ph.D. (Washington); Erdman B. Palmore, Ph.D. (Columbia); Jack J. Preiss, Ph.D. (Michigan State); Ida Simpson, Ph.D. (North Carolina at Chapel Hill); Edward A. Tiryakian, Ph.D. (Harvard)

Associate Professors

Richard T. Campbell, Ph.D. (Wisconsin); John Wilson, D.Phil. (Univ. of Oxford)

Adjunct Associate Professor

Linda K. George, Ph.D. (Duke)

Assistant Professors

Joanne Brown, Ph.D. (Pittsburgh); Gary Gereffi, Ph.D. (Yale); Angela O'Rand, Ph.D. (Temple)

Adjunct Assistant Professor

Kenneth G. Manton, Ph.D. (Duke)

The department offers graduate work leading to the A.M. and Ph.D. degrees in sociology. Students beginning work toward an advanced degree should have completed a minimum of twelve semester hours of acceptable courses in sociology and an additional twelve semester hours in related work (e.g., other social sciences, statistics, computer science, philosophy, mathematics). Accepted applicants who have not had such preparation may be required to take work beyond the usual program requirements. Applicants for admission are required to take the verbal and quantitative aptitude tests of the Graduate Record Examination.

The department concentrates its Ph.D. training in two programs: adult development, and changing world societies. Each program has its own course requirements, but all share a six-course requirement covering theory (280, 281), methodology and research methods (296, 297), and statistics (293, 294). In addition, each program has an informal seminar series and expects student involvement in related research activities. In order to assure some breadth of training, all students are required to take at least two departmental courses outside the specific course requirements of both their chosen program and the departmental core requirements. Two additional courses outside the department in related work are also required.

There is a qualifying procedure after three semesters, or equivalent, to determine whether the student can proceed to the preliminary examination which consists of two three-hour written examinations and a two-hour oral examination covering the core curriculum and the program area chosen by the student. Further details concerning the general departmental program, the specialized programs, departmental facilities, the staff, ongoing research, and various stipends available may be obtained from the Director of Graduate Studies.

Courses of Instruction

201S. Social Change
202S. Social Organization
205S. Complex Organizations
210. Comparative Race and Ethnic Relations
225. Medical Sociology
230. Social Aspects of Aging and Death
233S. Culture, Religion, and Modernity
234S. Political Economy of Development:
Theories of Change in the Third World
241. Social Stratification
242. The Sociology of Occupations and
Professions
243. Population Dynamics and Social Change
244. Human Ecology and Urban Systems
260S. Science, Technology, and Society
261S. Science, Politics, and Government
276S. Social Structure and the Life Course
277S. Social Patterns of Personal Development
279S. Social Psychology
280S. Contemporary Sociological Theory
281S. Development of Sociological Theory
282S. Seminar on Canada
293. Introductory Statistical Analysis

294. Intermediate Statistical Analysis
296S. Research Methods and Methodology
297S. Data Collection and Analysis
298S, 299S. Seminar in Selected Topics

Courses Currently Unscheduled

295. Methodology in Sociology
301. Seminar in Human Fertility
302. Seminar in Migration
325. Social Aspects of Mental Illness and
Treatment
345, 346. Demographic Techniques I and II
349, 350. Seminar in Selected Topics of
Demography and Ecology
373, 374. Social Psychological Issues in Sociology
385. Seminar in Sociological Theory
386. Seminar in Sociological Theory
390. Seminar in Field Methods of Sociological
Research
392. Individual Research in Sociology
397, 398. Seminar in Special Research

The University Program in Toxicology

Associate Professor William S. Lynn, Jr., M.D. (Columbia), *Director*

Associate Professor Mohamed B. Abou-Donia, Ph.D. (California at Berkeley), *Deputy Director*

Associate Professor Doyle G. Graham, M.D., Ph.D. (Duke), *Deputy Director*

The University Program in Toxicology seeks to produce individuals with sound training in the scientific basis for research in toxicology who will advance the science of this discipline. After broad general courses in epidemiology and statistics, pathology, and mammalian toxicology, students will be trained in one of three tracks: (1) as generalist toxicologists, with broad training in the principles and concepts of toxicology and the design of protocols for toxicological assessments; (2) as specialist toxicologists in those areas of toxicology research in which faculty members are currently productive—pulmonary toxicology, neurotoxicology, immunotoxicology, genetic toxicology (carcinogenesis), and biochemical toxicology; or (3) as ecotoxicologists with broad training in principles and concepts of both toxicology and ecology as they relate to the release, transport, exposure, accumulation, and the effects of toxics in the ecosystems.

The toxicology program faculty is comprised of members from the Departments of Anatomy, Biochemistry, Chemistry, Forestry and Environmental Studies, Microbiology and Immunology, Pathology, Pharmacology, Physiology, Zoology, and several departments in the School of Medicine.

Students seeking the Ph.D. in one of the participating Graduate School departments may make initial application to either the program or one of the departments. All who apply directly to the program will be considered for admission by the program and the department of the student's choice. Students who apply initially for graduate study in one of the departments may also be nominated by that department for admission to the program. It is expected that most students will have a strong undergraduate preparation in mathematics and the physical and biological sciences with demonstrated excellence of performance as judged by grades in course work and letters of recommendation from former instructors.

All students in the program will take a series of courses in toxicology as well as courses specified by his or her department. A student will be expected to choose

a dissertation adviser in his or her department at least by the end of the first two semesters in the program, and will normally be expected to begin dissertation research during the third semester in residence. Upon satisfactorily completing all degree requirements in the program and in the department, students will be jointly recommended for the Ph.D. degree.

Further information may be obtained from the Director of the toxicology program (Department of Biochemistry).

Zoology

Professor Stephen A. Wainwright, Ph.D. (California at Berkeley), *Chairman*

Professor Vance A. Tucker, Ph.D. (California at Los Angeles), *Director of Graduate Studies*

Professors

Joseph R. Bailey, Ph.D. (Michigan); Richard T. Barber, Ph.D. (Stanford); John D. Costlow, Jr., Ph.D. (Duke); Donald J. Fluke, Ph.D. (Yale); Nicholas W. Gillham, Ph.D. (Harvard); John R. Gregg, Ph.D. (Princeton); Peter H. Klopfer, Ph.D. (Yale); Daniel A. Livingstone, Ph.D. (Yale), *James B. Duke Professor of Zoology*; R. Bruce Nicklas, Ph.D. (Columbia); Knut Schmidt-Nielsen, Ph.D. (Univ. of Copenhagen), *James B. Duke Professor of Zoology*; John Staddon, Ph.D. (Harvard); Steven Vogel, Ph.D. (Harvard); Calvin L. Ward, Ph.D. (Texas); Karl M. Wilbur, Ph.D. (Pennsylvania), *James B. Duke Professor of Zoology*

Associate Professors

Richard B. Forward, Jr., Ph.D. (California at Santa Barbara); John G. Lundberg, Ph.D. (Michigan); David R. McClay, Ph.D. (North Carolina at Chapel Hill); H. Frederik Nijhout, Ph.D. (Harvard); John P. Sutherland, Ph.D. (California at Berkeley); Henry M. Wilbur, Ph.D. (Michigan)

Assistant Professors

William E. Conner, Ph.D. (Cornell); Mark D. Rausher, Ph.D. (Cornell)

The Department of Zoology manages a variety of programs tailored to individual needs of students seeking the Ph.D. degree. The A.M. degree may be taken by students en route to the Ph.D., or by those who leave the doctoral program. Ordinarily, only students seeking the doctorate degree are admitted to the department.

In general, students entering the department will be equipped to pursue advanced degrees if they have completed an undergraduate major in biology along with some formal training in college level chemistry, mathematics, physics, and foreign languages.

Nevertheless, in recognition and support of the modern trend toward interdisciplinary research, the department is prepared to accept promising students with less orthodox academic backgrounds and is ready to encourage any student wishing to undertake a program of study leading, in effect, to an interdisciplinary degree sponsored by the department.

Thus, all students are urged to search widely in both the *Bulletin of Duke University: Undergraduate Instruction* and the *Bulletin of Duke University: Graduate School* for information about the intellectual resources of the University. Special attention should be given to announcements of the Departments of Anatomy, Anthropology, Biochemistry, Botany, Chemistry, Geology, History, Mathematics, Microbiology and Immunology, Pharmacology, Philosophy, Physiology, Psychology, Sociology, and Zoology; announcements of the Schools of Engineering and Forestry and Environmental Studies should also be consulted.

Courses of Instruction

The L suffix on a zoology course number indicates that the course includes a laboratory.

201L. Animal Behavior
 203L. Marine Ecology
 204L. Community Ecology
 215L. Primary Productivity in the Seas
 216L. Limnology
 222L. Entomology
 224L. Herpetology
 226L. Ichthyology
 229. Morphogenetic Systems
 233. Principles of Insect Behavior
 237L. Systematic Biology
 239S. Biogeography
 244. Principles of Immunology
 245. Radiation Biology
 247S. Photobiology
 249. Biomechanics
 250L. Physiology of Marine Animals
 252. Comparative Physiology
 258L. Laboratory Research Methods
 259L. Laboratory in Biomechanics

264S. Chromosomes, DNA, and Evolution
 269. Advanced Cell Biology
 274L. Marine Invertebrate Zoology
 275L. Advanced Invertebrate Zoology
 278L. Invertebrate Developmental Biology
 280. Principles of Genetics
 283. Extrachromosomal Inheritance
 286. Evolutionary Mechanisms
 293L. Population Biology
 295S, 296S. Seminar
 353, 354. Research
 360, 361. Tutorials

Courses Currently Unscheduled

218L. Pleistocene Paleobiology
 235. Evolutionary Systematics
 289S. Problems in Genetics
 355, 356. Seminar

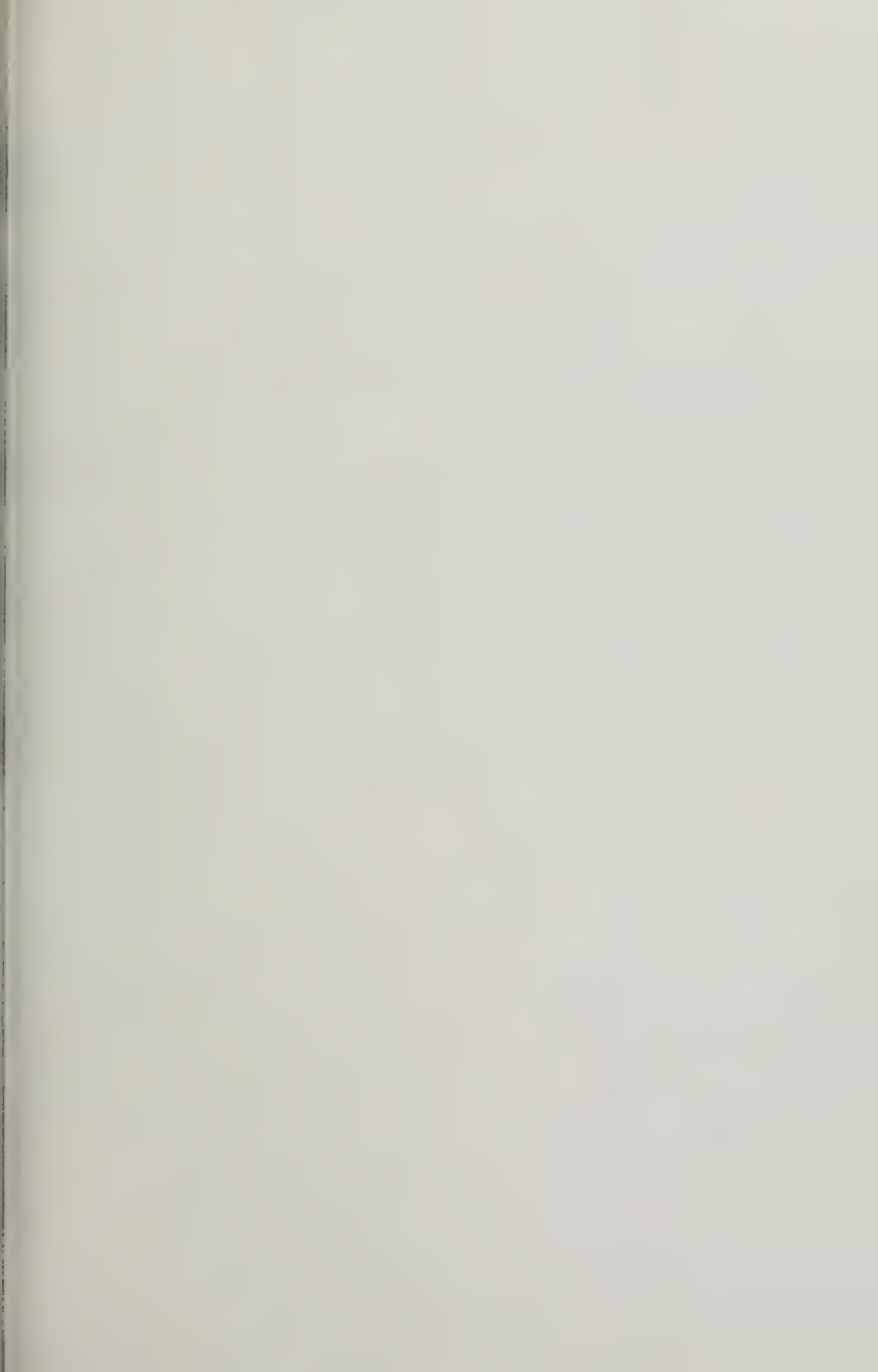
Related Programs

Genetics—The University Program. Genetics courses offered by the Department of Zoology are part of the University Program in Genetics; see announcement in this bulletin.

Marine Sciences—The University Program. Consult Marine Sciences in this bulletin for offerings at the Duke University Marine Laboratory.

Program in Tropical Biology. Fellowships are available for travel and subsistence in field-oriented programs in Latin America. Refer to Organization for Tropical Studies in this bulletin in the section on special programs.



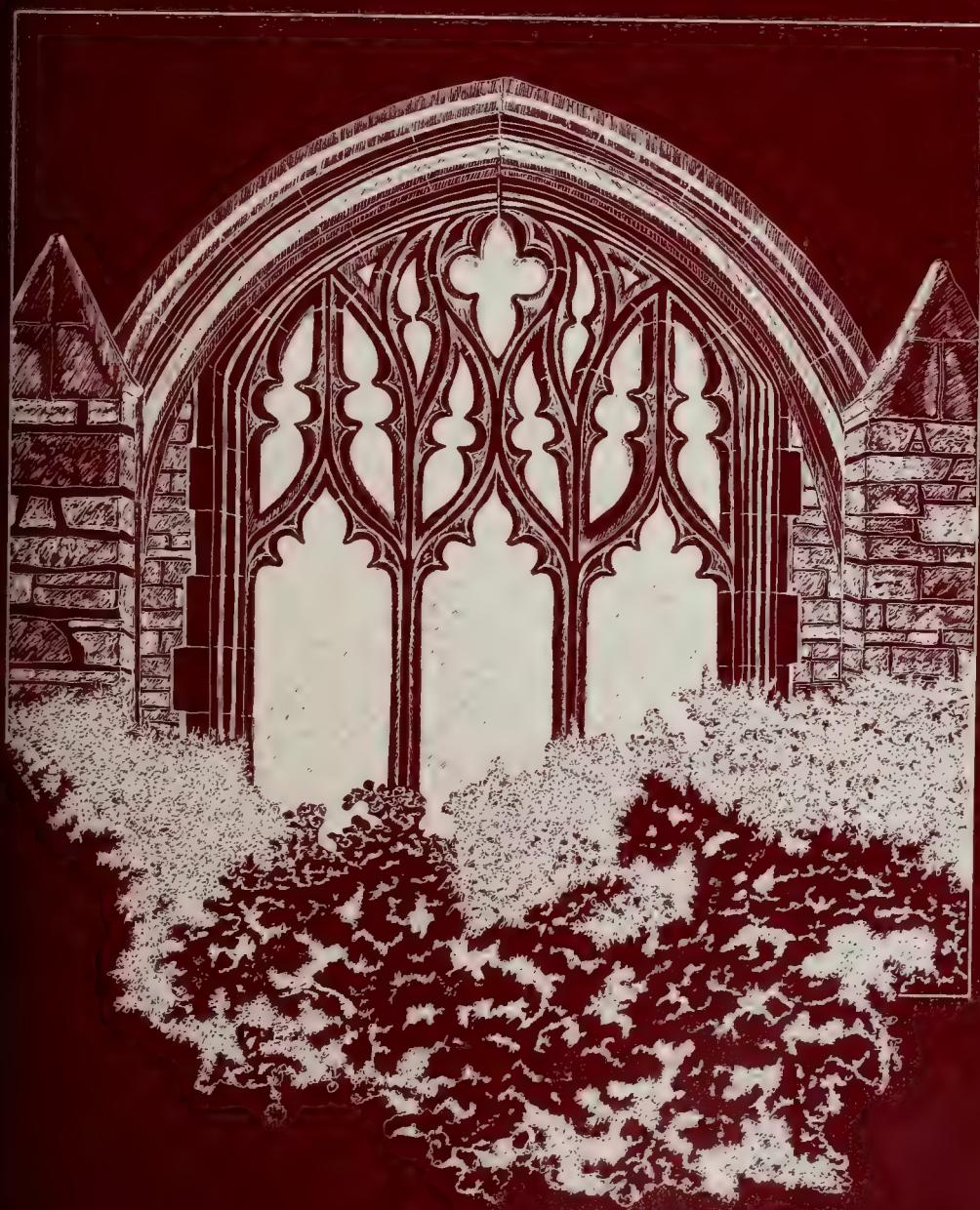


Bulletin of Duke University
(USPS 073-680)
Durham, NC 27706

bulletin of

Duke University 1982-83

The Divinity School



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The Divinity School

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Typesetting by Electronic Composition Div., Computer Data Systems, Washington, D.C.
Printed by William Byrd Press, Richmond, Virginia

The information in the bulletin applies to the academic year 1981-82 and is accurate and current, to the best of our knowledge, as of June 1982. The University reserves the right to change programs of study, academic requirements, lecturers, teaching staffs, the announced University calendar, and other matters described in the bulletin without prior notice, in accordance with established procedures.

Duke University does not discriminate on the basis of race, color, national and ethnic origin, sex, handicap, or age in the administration of educational policies, admission policies, financial aid, employment, or any other University program or activity. It admits qualified students to all the rights, privileges, programs, and activities generally accorded or made available to students. For further information, call Dolores L. Burke, Equal Opportunity Officer, telephone 919-684-6578.

Volume 54

August 1982

Number 7

The Bulletin of Duke University (USPS 073-680) is published by Duke University, Duke Station, Durham, North Carolina 27706 as follows: monthly—April, May, and July; semimonthly—October, March, and June; thrice-monthly—August. Second-class postage paid at Durham, North Carolina.

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Calendar of the Divinity School

1982

August	
25	Wednesday—Orientation for new students begins
26	Thursday—Orientation continues
27	Friday, 9:00-10:30 A.M.—Registration for returning students; 10:30-12:00 noon—Registration for new students
30	Monday—Fall semester classes begin
30	Monday—Drop/add period begins
31	Tuesday, 7:30 P.M.—Divinity School opening convocation
September	
10	Friday, 12:00 noon—Drop/add period ends
October	
8	Friday, 5:00 P.M.—Fall recess begins
18	Monday—Classes resume
27-28	Wednesday-Thursday—Registration for spring semester
November	
8-10	Monday-Wednesday—Divinity School Convocation and Pastors' School and Gray Lectures
25-26	Thursday-Friday—Thanksgiving recess
30	Monday—Classes resume
December	
10	Friday—Fall semester classes end
14	Tuesday—Final examinations begin
17	Friday—Final examinations end

1983

January	
6	Thursday—Orientation for new students
7	Friday—Registration for new students; registration changes for returning students
10	Monday—Spring semester classes begin
10	Monday—Drop/add period begins
21	Friday, 12:00 noon—Drop/add period ends
March	
4	Friday, 5:00 P.M.—Spring recess begins
14	Monday—Spring recess ends; classes resume
22-23	Tuesday-Wednesday—Registration for fall semester
April	
1-4	Friday-Monday—Easter recess
20	Wednesday, 11:00 A.M.—Divinity School closing convocation
22	Friday—Spring semester classes end
26	Tuesday—Final examinations begin
29	Friday—Final examinations end
May	
7	Saturday, 6:30 P.M.—Divinity School baccalaureate service
8	Sunday, 3:00 P.M.—Commencement exercises

University Administration

GENERAL ADMINISTRATION

Terry Sanford, J.D., LL.D., D.H., L.H.D., D.P.A., *President*
H. Keith H. Brodie, M.D., *Chancellor*
William Bevan, Ph.D., LL.D., Sc.D., *Provost*
Charles B. Huestis, *Vice-President for Business and Finance*
William G. Anlyan, M.D., D.Sc., *Vice-President for Health Affairs*
Eugene J. McDonald, LL.M., *Vice-President for Government Relations and University Counsel*
William J. Griffith, A.B., *Vice-President for Student Affairs*
Stephen Cannada Harward, A.B., C.P.A., *Treasurer and Assistant Secretary*
J. Peyton Fuller, A.B., *Assistant Vice-President and Corporate Controller*
Roger L. Marshall, A.B., *Secretary of the University*
Andrew G. Wallace, M.D., *Associate Vice-President for Health Affairs*
Mel Ray, M.B.A., *Vice-Chancellor for Data Processing*
Joel L. Fleishman, LL.M., *Vice-Chancellor*

DIVINITY SCHOOL EDUCATIONAL ADMINISTRATION

Jameson Jones (1981), M.Div., Ph.D., L.H.D., D.D., *Dean of the Divinity School*
Robert L. Wilson (1970), B.D., Ph.D., *Associate Dean for Curricular Affairs*
John K. Bergland (1973), M.Div., D.D., *Associate Dean for External Affairs*
B. Maurice Ritchie (1973), B.D., *Assistant Dean for Field Education and Student Services*
Dennis M. Campbell (1979), B.D., Ph.D., *Director of Continuing Education*
Paula Elizabeth Gilbert (1980), M.Div., *Director of Admissions and Student Affairs*
Lawrence E. Johnson (1979), M.Div., D.Min., *Director of Black Church Affairs*
Wilson O. Weldon (1981), B.D., D.D., *Special Assistant to the Dean*
Wesley F. Brown (1981), M.Div., *Assistant to the Dean for Development*
Clara S. Godwin (1969), *Administrative Assistant for General Administration and Finance*

Division of Special Programs

John C. Detwiler (1966), B.D., Th.M., *Director of Clinical Pastoral Education*
Richard A. Goodling (1959), B.D., Ph.D., *Director of Programs in Pastoral Psychology*
Robert L. Wilson (1970), B.D., Ph.D., *Director, J. M. Ormond Center for Research, Planning, and Development*

Division of Advanced Studies

Eric M. Meyers, (1969), Ph.D., *Director of Graduate Studies in Religion*

Library

Donn Michael Farris (1959), M.Div., M.S. in L.S., *Librarian*
Harriet V. Leonard (1960), M.Div., M.S. in L.S., *Reference Librarian*
Katherine L. Dixon, A.B., M.A., *Circulation Librarian*
Linda Gard, A.B., M.Div., *Assistant Circulation Librarian*

SECRETARIAL STAFF

Carol Bailey, *Faculty Secretary*
Anita Gail Chappell, *Faculty Secretary*
Mary P. Chestnut, *Faculty Secretary*
Norma J. Dockery, *Secretary to the Director of Black Church Affairs and Faculty Secretary*
Sarah Freedman, M.A., *Faculty Secretary*
Maxie B. Honeycutt, *Administrative Secretary for Student Financial Aid*
Patsy E. Martin, *Administrative Secretary, Office of the Dean*
Margie M. Meeler, *Secretary to the Assistant Dean for Field Education and Student Services*
Jacquelyn P. Norris, *Secretary to the Director of Admissions and Student Affairs*
Frances D. Parrish, *Administrative Secretary, Secretarial Staff*
Anne C. Ragan, *Secretary to the Director of the J. M. Ormond Center for Research, Planning, and Development and Faculty Secretary*
Candice Y. Sloan, M.Div., *Secretary to the Director of Continuing Education*
Marie Smith, *Secretary to the Associate Dean for External Affairs and Faculty Secretary*
Mary C. Tilley, *Administrative Secretary, Registry*

FACULTY

Lloyd Richard Bailey (1971), B.D., Ph.D., *Associate Professor of Old Testament*
Waldo Beach (1946), B.D., Ph.D., *Professor of Christian Ethics*

James Michael Efird (1962), B.D., Ph.D., *Associate Professor of Biblical Languages and Interpretation*
 Donn Michael Farris (1950), M.Div., M.S. in L.S., *Professor of Theological Bibliography*
 Richard A. Goodling (1959), B.D., Ph.D., *Professor of Pastoral Psychology*
 Robert Clark Gregg (1974), S.T.B., Ph.D., *Associate Professor of Patristics and Medieval Church History*
 Stuart C. Henry (1959), B.D., Ph.D., *Professor of American Christianity*
 Frederick Herzog (1960), Th.D., *Professor of Systematic Theology*
 Osmond Kelly Ingram (1959), B.D., *Professor of Parish Ministry*
 Jameson Jones (1981), M.Div., Ph.D., L.H.D., D.D., *Professor of Practical Theology*
 Creighton Lacy (1953), B.D., Ph.D., *Professor of World Christianity*
 Thomas A. Langford (1956), B.D., Ph.D., D.D., *Professor of Systematic Theology*
 Richard Lischer (1979), M.A., B.D., Ph.D., *Assistant Professor of Homiletics*
 Paul A. Mickey (1970), B.D., Ph.D., *Associate Professor of Pastoral Theology*
 Roland E. Murphy (1971), M.A., S.T.D., S.S.L., *George Washington Ivey Professor of Old Testament*
 C. G. Newsome (1978), M.Div., Ph.D., *Assistant Professor of American Christianity*
 McMurtry S. Richey (1954), B.D., Ph.D., *Professor of Theology and Christian Nurture*
 Charles K. Robinson (1961), B.D., Ph.D., *Associate Professor of Philosophical Theology*
 Dwight Moody Smith, Jr. (1965), B.D., Ph.D., *Professor of New Testament Interpretation*
 *Harmon L. Smith (1962), B.D., Ph.D., *Professor of Moral Theology*
 David Curtis Steinmetz (1971), B.D., Th.D., *Professor of Church History and Doctrine*
 William C. Turner, Jr. (1982), M.Div., *Instructor in Theology and Black Church Studies*
 John H. Westerhoff III (1974), M.Div., Ed.D., *Professor of Religion and Education*
 Robert L. Wilson (1970), B.D., Ph.D., *Research Professor of Church and Society*
 Franklin Woodrow Young (1968), B.D., Ph.D., *Amos Ragan Kearns Professor of New Testament and Patristic Studies*

FACULTY, DEPARTMENT OF RELIGION

(Teachers in graduate program in religion whose courses are open to Divinity School students.)

Kalman Bland (1973), Ph.D., *Associate Professor of Judaic Studies*
 David G. Bradley (1949), Ph.D., *Professor of History of Religions*
 James H. Charlesworth (1969), B.D., Ph.D., *Associate Professor of New Testament*
 Elizabeth Clark (1982), Ph.D., *Professor of History of Christianity*
 Roger Corless (1970), Ph.D., *Associate Professor of History of Religions*
 Wesley A. Kort (1965), Ph.D., *Professor of Religion and Literature*
 Bruce B. Lawrence (1971), Ph.D., *Professor of History of Religions*
 C. Eric Lincoln (1976), Ph.D., *Professor of Sociology of Religion*
 Charles H. Long (1974), Ph.D., *Professor of History of Religions*
 Carol L. Meyers (1979), Ph.D., *Assistant Professor of Old Testament*
 Eric M. Meyers (1969), Ph.D., *Professor of Judaic Studies*
 Robert T. Osborn (1954), Ph.D., *Professor of Theology*
 Harry B. Partin (1964), Ph.D., *Associate Professor of History of Religions*
 William H. Poteat (1960), Ph.D., *Professor of Religion and Culture*
 James L. Price (1952), Ph.D., *Professor of New Testament*
 Orval Wintermute (1958), Ph.D., *Professor of Old Testament*

RELATED FACULTY

John K. Bergland (1973), M.Div., D.D., *Associate Dean for External Affairs*
 Albert F. Fisher (1974), M.Div., *Adjunct Professor of Parish Work*
 P. Wesley Aitken (1953), B.D., Th.M., *Chaplain Supervisor of Duke Medical Center and Associate in Instruction, the Divinity School*
 John C. Detwiler (1966), B.D., Th.M., *Chaplain Supervisor of Duke Medical Center and Associate in Instruction, the Divinity School*
 W. Kenneth Goodson, B.D., D.D., *Bishop-in-Residence*
 Ruth E. Harper, M.Div., *Visiting Lecturer in Ministerial Studies*
 Rhonda E. Johnson, Jr., M.A.T., M.Div., Ph.D., *Visiting Lecturer in Church Polity*
 Bonnie S. Jones, B.S., *Visiting Lecturer in Church Music and Director of Divinity School Choir*
 Peter G. Keese (1973), S.T.B., Th.M., *Chaplain Supervisor of Duke Medical Center and Associate in Instruction, the Divinity School*
 William H. Willimon, M.Div., S.T.D., *Visiting Associate Professor of Liturgy and Worship*

EMERITI

Frank Baker (1960), B.D., Ph.D., *Professor Emeritus of English Church History*
 Robert Earl Cushman (1945), B.D., Ph.D., Litt.D., *Research Professor Emeritus of Systematic Theology*

Sabbatical leave, 1982-83

William David Davies (1966), M.A., F.B.A., D.Litt., *George Washington Ivey Professor Emeritus of Advanced Studies and Research in Christian Origins*
 William Arthur Kale (1952), B.D., D.D., *Professor Emeritus of Christian Education*
 M. Wilson Nesbitt (1958), B.D., D.D., *Adjunct Professor Emeritus of the Work of the Rural Church*
 Ray C. Petry (1937), Ph.D., LL.D., *James B. Duke Professor Emeritus of Church History*
 John Jesse Rudin II (1945), B.D., Ph.D., *Associate Professor Emeritus of Liturgy and Worship*
 H. Shelton Smith (1931), Ph.D., D.D., Litt.D., *James B. Duke Professor Emeritus of American Religious Thought*
 William Franklin Stinespring (1936), Ph.D., *Professor Emeritus of Old Testament and Semitics*
 Arley John Walton (1948), B.S.L., D.D., *Professor Emeritus of Church Administration and Director of Field Work*

In Memorium

Jameson Jones

1929-1982

After this Bulletin was prepared, the Divinity School community was shocked and saddened by the death of Dean Jameson Jones on July 18, 1982.

In the year and a half that Dean Jones had been at Duke we had come to appreciate him as a person and as a leader. His death is not only a great loss to Duke University but to the Church and to theological education.

Matters relating to the Dean's Office should be directed to Robert L. Wilson, Associate Dean.

General Information



History

Duke University as it exists today developed from simple beginnings. Established in 1838, Union Institute became a normal college by 1851 and in 1859 was renamed Trinity College. In 1892 the college moved to Durham, North Carolina.

In 1924 James B. Duke established a trust fund for educational and charitable purposes. The chief beneficiary was Trinity College, which became Duke University. The purpose for establishing the trust was very clear: "I have selected Duke University as one of the principal objects of this trust because I recognize that education, when conducted along sane and practical, as opposed to dogmatic and theoretical lines, is, next to religion, the greatest civilizing influence And I advise that the courses at this institution be arranged, first, with special reference to the training of preachers, teachers, lawyers, and physicians, because these are most in the public eye, and by precept and example can do most to uplift mankind" The School of Religion began its work in the academic year 1926-27, and formal exercises for its opening were held on 9 November 1926. In 1940 the name was changed to the Divinity School.

During its history the Divinity School has had outstanding teachers, scholars, and administrative leaders,* and its graduates have distinguished themselves by making significant contributions to the church and the world. In 1964 a program of expansion was begun, culminating in February 1972, when the Divinity School doubled its physical facilities and moved into a handsome new building.

The Role of the Divinity School

The Divinity School represents theological inquiry and learning within the greater University. By history and indenture, it stands within the Christian tradition and recognizes its distinctive lineage in, as well as its continuing obligation to, the United Methodist Church. The Divinity School, although United Methodist in tradition and dependency, receives students from many Christian denominations and offers its educational resources to representatives of the several

*Since the institution of the School in 1926, the following persons have served as Deans or Acting Deans: Edmund Davidson Soper, 1926-28; Elbert Russell, 1928-41; Paul Neff Garber, 1941-44; Harvie Branscomb, 1944-46; Gilbert T. Rowe, Acting Dean of the faculty, 1946-47; Paul E. Root (elected in 1947 but died before assuming office); Harold A. Bosley, 1947-50; James Cannon III, Acting Dean 1950-51, Dean 1951-58; Robert Earl Cushman, 1958-71; Thomas A. Langford, 1971-1981; Jameson Jones, since 1981.

communities who seek an education for a church-related ministry. From its inception, it has been ecumenical in aspiration, teaching, and practice, as well as in its faculty. Educational policy has consistently aspired to foster a Christian understanding "truly catholic, truly evangelical, and truly reformed."

The principal purpose of the Divinity School is the professional education for the ministry, which in today's world is manifested in a variety of forms. Provision to implement these increasing variations of ministry is a part of the School's curricular resources.

Although the conventional and inherited styles of ministry are now undergoing change, the Divinity School curriculum continues to prepare students for informed and discriminating discharge of the historic offices of church and congregation through the ministry of word and sacrament, pastoral care, and teaching. The Divinity School believes these offices will remain, although the form and context of the local church may change.

With this in mind, the Divinity School tries to prepare students for the mature performance of their vocation. It hopes to develop in each student a disciplined intelligence, informed by sound learning and equipped for worthy professional service. The resources are offered to students with a diversity of ministerial aims, although the School seeks, by recruitment and financial support, to prepare persons for ordination or lay professional vocations in the churches. This is regarded as a service to the Church, to the world, and primarily to the Lord of the Church.

The Relation of the Divinity School to Duke University

The Divinity School is an integral part of the University and shares fully in its activities, privileges, and responsibilities. The Sunday services in the University Chapel give Divinity School students each year an opportunity to hear several of the country's leading ministers. The University libraries make a rich collection of books and other materials easily accessible. Without paying additional fees, selected courses in the graduate and professional schools are open to Divinity School students, as well as the general, cultural, and recreational resources of the University.





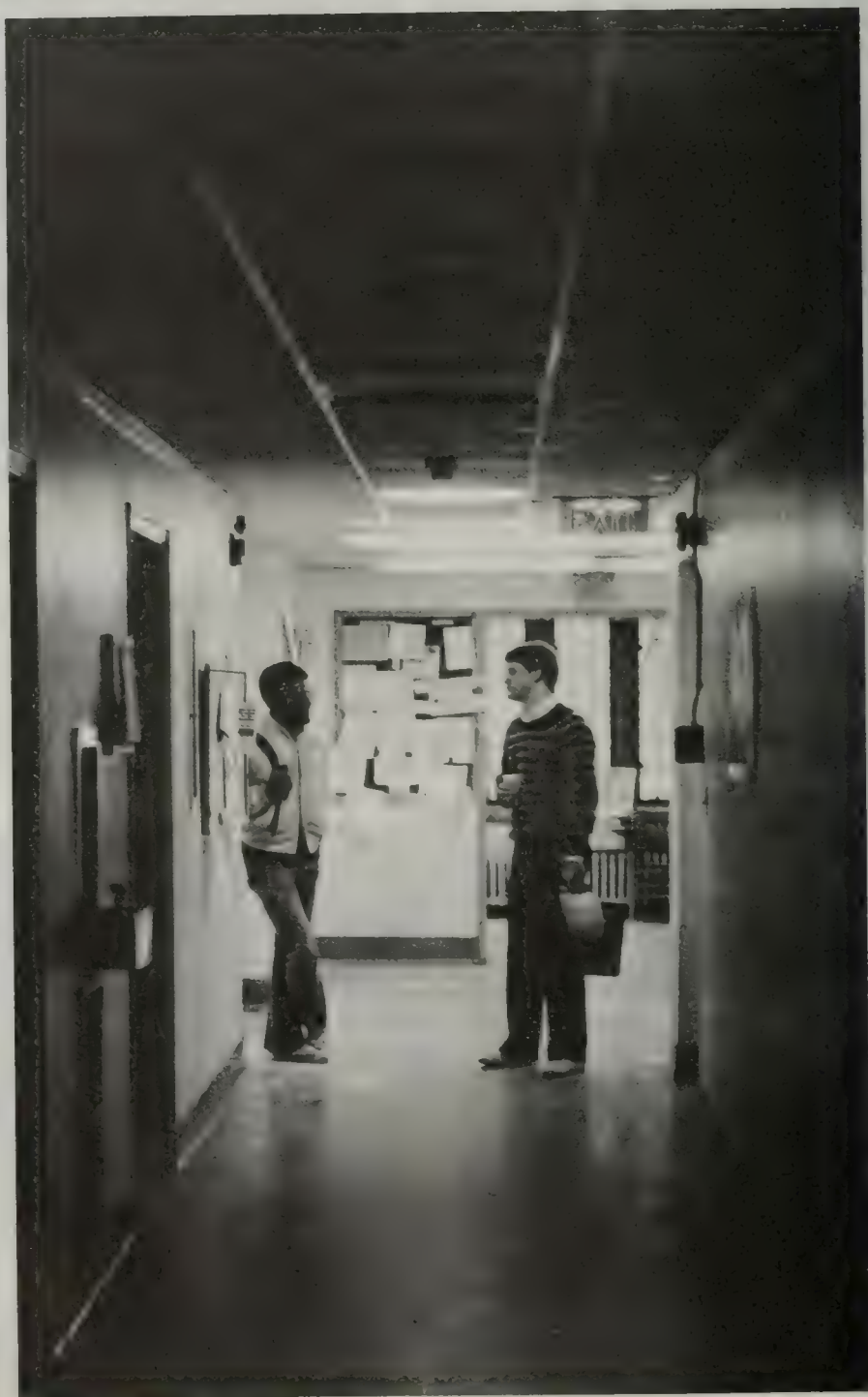
Library Resources

Divinity School Library. The Divinity School Library contains a collection of more than 210,000 volumes in the field of religion and related disciplines and affords an unusual wealth of material for the seminary student. Although an integral part of the University's eleven-unit library system, which possesses more than 3,000,000 volumes, the Divinity School Library has its own separate facilities in the Divinity School Building. Its book collection is operated on the open stack system, and its reading rooms provide study facilities for students, space for the special reference collection in religion, and for the more than 600 religious periodicals to which the library currently subscribes.

Staffed by a librarian and a reference librarian trained in theology as well as library administration, by a supporting staff of three persons, and by a number of student assistants, the Divinity School Library offers a variety of reference services to assist the student in selecting and locating materials. The staff, in cooperation with the faculty, maintains a book and periodical collection to support basic courses and advanced research in all major fields of religious studies.

The Divinity School Library is adjacent to the Perkins Library. The seminary student may use the resources and facilities of the Perkins Library, some of which include manuscripts, archives, public documents, newspapers, periodicals, microfilms, maps, rare materials (among which are eighty-one prized ancient Greek manuscripts), and reference assistance. There is a provision for borrowing books from the libraries of the University of North Carolina and other neighboring institutions.

Admissions



Requirements and Procedures

The Divinity School is a fully accredited member of the Association of Theological Schools and is one of thirteen accredited seminaries of the United Methodist Church. It considers candidates for admission who hold an A.B. degree, or its equivalent, from a college approved by a regional accrediting body.

Preseminary Curriculum. The Divinity School follows the guidelines of the Association of Theological Schools with respect to undergraduate preparation for theological study. In general, this means a strong background in liberal arts, especially the humanities. A well-rounded background in English language and literature, history, philosophy, psychology, religion, social science, and foreign languages is especially desirable.

Application Procedures. Application forms secured from the admissions office should be filed six to twelve months in advance of the intended date of enrollment. Ordinarily, no application for a degree program will be accepted after 15 May and 15 November for September and January enrollments, respectively. The student should provide the following supporting documents and information: (1) one copy of the official transcript from each college, university, or seminary attended sent directly to the Director of Admissions by the institution; (2) one supplementary transcript, sent as soon as possible, showing completion of work which was in progress when the earlier transcript was made; and (3) the names of five persons best qualified to judge the applicant as a prospective student in the Divinity School who will be contacted by the school for written letters of recommendation. *Materials submitted in support of an application are not released for other purposes and cannot be returned to the applicant.*

Applicants are strongly urged to come for on-campus visits and interviews prior to final admission. A minimum of thirty days is required to process any application for a degree program.

Graduates of unaccredited senior colleges and universities may apply for admission but will be admitted only on a Limited Program basis.

Additional Procedures for International Students. Fully qualified students from outside the United States are welcome to apply for admission to the Divinity School. In applying for admission the international student must, in addition to the information required of all students, submit with the application material: (1) if the student's native language is not English, certification of English proficiency demonstrated by scores from the Test of English as a Foreign Language (TOEFL), administered through the Educational Testing Service in Princeton, New Jersey

(the Divinity School requires a score of 550 or higher on the TOEFL); (2) a statement of endorsement from an official of the student's national ecclesiastical body, affirming that ecclesiastical body's support for the student's pursuit of theological studies in the United States and welcoming the student into active ministry under its jurisdiction following the student's study in this country; and (3) a statement demonstrating financial arrangements for the proposed term at the Divinity School (estimated costs per calendar year are \$10,000*). *An international student must submit scores from the TOEFL, a financial statement, an endorsement by an official of an ecclesiastical body, and have all transcripts and five letters of recommendation sent to the Admissions Office of the Divinity School before the Divinity School will make any offer of admission.*

Admission Requirements. Those persons are encouraged to apply:

1. who have or will have been awarded a bachelor's degree from a regionally accredited college or university prior to their intended date of enrollment;
2. who have attained at least an overall B-(2.65 on 4.0 scale) academic average; and
3. who are committed to some form of ordained or lay ministry.

Applicants are evaluated on the basis of academic attainment, future promise for ministry, and vocational clarity and commitment.

Admission on Limited Program. Limited Program is a special relation between the school and the student, designed to encourage and support academic achievement. Students may be admitted on Limited Program for a number of reasons including an undergraduate degree in a program other than liberal arts, an undergraduate degree from a non-accredited college, or an undergraduate transcript that does not fully meet Divinity School standards.

*Figures are based on 1981-82 charges and are subject to change.



Limited Program means reduced schedules of work, with the amount determined by the Associate Dean for Curricular Affairs (ordinarily no more than three courses each of the first two semesters), and also includes a review of work at the end of each semester by the Committee on Academic Standing until Limited Program is lifted.

Admission as a Special Student. Special student status is a restricted category of admission for persons who do not have need of a degree program and who desire access to the rich offerings of the Divinity School curriculum for particular purposes. Special student status may be granted after a person has submitted an application and all transcripts of undergraduate academic work and when all three letters of recommendation have been received from listed references. Applications for special student status must be submitted at least thirty days prior to the intended date of enrollment. *Special students are ineligible for any form of financial assistance through the Divinity School.*

Admission Acceptance. Applicants are expected to indicate their acceptance of admission within three weeks and to confirm this with the payment of an admission fee of \$50. Upon matriculation, this fee is applied to the first semester tuition charge.

To complete admission students must provide a certificate of immunization and general health to the student health service. The admission office must also receive a final transcript verifying the conferral of the undergraduate degree.

Persons who do not matriculate at the time for which they were originally admitted forfeit admission unless they present a written request for postponement to the Director of Admissions and Student Affairs.

Transfer of Credit. Transfer of credit from theological schools accredited by the Association of Theological Schools is allowed by the Divinity School. Credit from another institution will normally be limited to one-third of the total number of credits required for graduation by the Divinity School. In each case a letter of honorable dismissal from the school from which transfer is made is required along with a transcript of academic credits. Applicants for transfer into a degree program are evaluated on the same basis as other applicants.

Conduct of Students

Duke University expects and will require of all its students continuing loyal cooperation in developing and maintaining high standards of scholarship and conduct. The University wishes to emphasize its policy that all students are subject to the rules and regulations of the University currently in effect, or which are put into effect from time to time by the appropriate authorities of the University. Any student, in accepting admission, indicates willingness to subscribe to and be governed by these rules and regulations and acknowledges the right of the University to take such disciplinary action, including suspension and/or expulsion, as may be deemed appropriate, for failure to abide by such rules and regulations or for conduct adjudged unsatisfactory or detrimental to the University.

The Divinity School expects its students to participate in a communally shared concern for growth in life appropriate to Christian faith and to the dignity of their calling.

Community Life



Corporate Worship

One of the most important aspects of a program of training for Christian life is a vigorous, inspiring, and varied program of participation in corporate worship. This corporate life of the Divinity School is centered in York Chapel where services are held weekly. These services are led by members of the faculty, members of the student body, and guests. Services are voluntary but have been and will continue to be sources of inspiration and strength to the members of the community.

Living Accommodations

Town House Apartments. Duke University operates Town House Apartments primarily for graduate and professional school students. Others may be housed if vacancies exist. The setting of these apartments provides single graduate students a comfortable, home-like atmosphere free of all aspects of living inherent to residence halls. Sixteen of the thirty-two air-conditioned apartments are equipped for two students, and the remaining sixteen units are equipped for three students.

Central Campus Apartments. Duke University operates a 500-unit housing facility known as Central Campus Apartments. The complex provides basic housing for married graduate students, and single and married students in nondegree allied health programs. Assignments are made on a first-apply, first-assigned basis.

For single students one-bedroom and two-bedroom apartments are fully furnished. The apartments for married students include a few efficiencies and a number of one-, two-, and three-bedroom units in which the kitchen, living room, and first bedroom are basically furnished. These apartments are equipped in such a way as to provide economy and convenience to eligible married students while allowing for individuality.

Off-Campus Housing. The Department of Housing Management maintains lists of rental apartments, rooms, and houses provided by Durham property owners or real estate agents who will agree not to discriminate in the rental property because of race, sex, creed, or nationality of a prospective tenant. These lists are available in the Central Campus office. Off-campus rental properties are not inspected or approved, nor does the University or its agents negotiate with owners for students, faculty, or staff.

Application Procedures. When students are informed of their acceptance to the Divinity School, they will also receive a form on which to indicate their

preference for University housing. This form should be returned to the Department of Housing Management. Detailed information on the types of accommodations, and application forms, will be forwarded to the accepted student. However, if additional information is desired prior to a student's acceptance, please write to the Department of Housing Management, Duke University, Durham, North Carolina 27706.

Food Services. Food service facilities located throughout the Duke campus include both board plan and cash operations. Graduate and professional students are welcome to eat in any of the board plan cafeterias at guest meal prices, or they may participate voluntarily in any of the point plans. Details are available from the Food Services Business Office, 106 West Campus Union Building. Board plans in the Blue and White Room Cafeteria and the East Court Cafeteria provide participants and their guests with unlimited seconds style meals throughout the week at set prices. Dining facilities on the West Campus include a cafeteria with multiple-choice menus, the Oak Room with table service, the Sprig which serves soup and salad bar lunches, the Cambridge Inn with fast foods and beverages, and the Construction Company with late night sandwich service. The Bryan Center has a snack bar and a Rathskeller, both open all week, morning through late evening. East Campus has cafeteria service and a snack bar. Trent Drive Hall has a public cafeteria and Gradeli's, a snack bar/delicatessen. The Sprout is a salad and soup bar open for lunch Monday through Friday. Duke University Food Services is the largest student employer on campus, and hires students in almost every food operation. A listing of open positions and areas is available from the Personnel Office, 106 West Campus Union Building.

Student Health

One of the prerequisites for gaining the most from the University experience is a sense of well-being. The aim of the University health service is to provide medical care and health advice necessary to help the student enjoy being a part of the University community. To serve this purpose, both the University health service clinic and the University infirmary are available for student health care needs. A separate fee for this service is assessed.

The main components of the health service include the University health service clinic, located in the Pickens Building on West Campus, and the University infirmary on the East Campus. Emergency transportation, if required, can be obtained from the Duke campus police. Residential staff personnel should be consulted whenever possible for assistance in obtaining emergency treatment.

The facilities of the University health service clinic are available during both regular and summer sessions to all currently enrolled full-time students. The facilities of the University infirmary are available during the regular sessions from the opening of the University in the fall until graduation day in the spring to all currently enrolled full-time students.

The University has made arrangements for a student accident and sickness insurance plan to cover all full-time students for a twelve-month period. For additional fees a student may obtain coverage for a spouse or spouse and child. Although participation in this program is voluntary, the University expects all graduate students to be financially responsible for medical expenses above those covered by the University student health program through the University accident and sickness policy, a private policy, or personal financial resources. Students who have equivalent medical insurance or wish to accept the financial responsibility for any medical expense may elect not to take the Duke plan by signing a statement to this effect. Each full-time student in residence must purchase this student health insurance or indicate the alternative arrangement. The student accident and sickness insurance policy provides protection twenty-four hours per day during

the full twelve-month term of the policy for each student insured. Students are covered on and off campus, at home, or while traveling between home and school and during interim vacation periods. Term of the policy is from opening day in the fall. Coverage and services are subject to change each year as deemed necessary by the University in terms of costs and usage.

Since the student health program does not cover students while away from the Duke campus, it is imperative that student pastors and assistant pastors (winter and/or summer) who are subjected to the hazards of highway travel with great frequency secure complementary health and accident insurance for the full twelve-month period. Students whose course load entitles them to full coverage under the student health program are eligible to secure a complementary insurance policy through the University which provides protection for the entire calendar year. Costs and details of the complementary policy are available from the Director of Admissions and Student Affairs. At the time of registration, a student *must* enroll in this complementary insurance program or sign a waiver of liability statement regarding health care and claims. Students in internship programs carrying less than two courses in any given semester are strongly encouraged to apply for this insurance. Foreign students are required to hold this or another acceptable policy.

Married students are expected to be financially responsible for their dependents, providing for hospital, medical, and surgical care, since their dependents are not covered at any time by student health.

The resources of the Duke University Medical Center are available to all Duke students and their spouses and children. Charges for any and all services received from the Medical Center are the responsibility of the student as are the charges for services received from physicians and hospitals not associated with Duke University.

Counseling and Psychological Services. Counseling and Psychological Services (CAPS) is a component of student services which provides a coordinated, comprehensive range of counseling and developmental services to assist and promote the personal growth of Duke students. The professional staff is composed of psychologists, clinical social workers, and psychiatrists experienced in working with young adults. They provide evaluation and brief counseling/psychotherapy regarding a wide range of concerns, including such issues as self-esteem and identity, family relationships, academic performance, dating, intimacy, and sexual concerns. While students' visits with counselors are usually by appointment, a walk-in consultation service is provided two hours each weekday for students with urgent personal concerns.

Each year CAPS offers a series of self-development seminars focusing on skills development and special interests. These explore such interests as stress management, assertiveness training, career planning, couples' communication, and study skills. Interested students may call or come by CAPS for further information.

As Duke's center for administration of national testing programs, CAPS also offers a wide variety of graduate/professional school admission tests and professional licensure and certification examinations. The staff is also available to the entire University community for consultation and educational activities in student development and mental health issues affecting not only individual students but the campus community as a whole. They work with campus personnel, including administrators, faculty, student health staff, religious life staff, resident advisers, and student groups, in meeting needs identified through such liaisons. Staff members are available to lead workshops and discussion groups on topics of interest to students.

CAPS maintains a policy of *strict confidentiality* concerning information about each student's contact with the CAPS staff. If a student desires that information be

released to anyone, written authorization must be given by the student for such release.

There are no charges for initial evaluation, brief counseling/psychotherapy, or self-development seminars. If appropriate, referral may be made to other staff members or a wide variety of local resources.

Appointments may be made by calling 684-5100 or coming by the office in 214 Old Chemistry Building, West Campus, between 8:00 A.M. and 5:00 P.M. Monday through Friday. If a student's concern needs immediate attention, that should be made known to the secretary, and every effort will be made to arrange for the student to talk with a staff member at the earliest possible time.

Motor Vehicles

Each student possessing or maintaining a motor vehicle at Duke University must register it at the beginning of the academic year in the security office at 2010 Campus Drive. If a motor vehicle is acquired and maintained at Duke University after academic registration, it must be registered within five calendar days after operation on the campuses begins. Resident students are required to pay an annual fee of \$20 for each motor vehicle or \$10 for each two-wheeled motor vehicle. Students first registering after 1 January are required to pay \$14 for a motor vehicle or \$7 for a two-wheeled motor vehicle.

At the time of registration of a motor vehicle, the following documents must be presented: the state vehicle registration certificate, a valid driver's license, and satisfactory evidence of automobile liability insurance coverage with limits of at least \$10,000 per person and \$20,000 per accident for personal injuries, and \$5,000 for property damage, as required by the North Carolina motor vehicle law.

If a motor vehicle or a two-wheeled motor vehicle is removed from the campus permanently and the decal is returned to the traffic office prior to 1 January there will be a refund of \$10 for a motor vehicle and \$5 for a two-wheeled motor vehicle.

Student Activities and Organizations

In the absence of common living and dining accommodations, community life in the Divinity School centers around a number of organizations and activities. The richness of life prevents more than a very selective listing of activities and organizations.

A primary center for community is a morning chapel service held every Tuesday, Wednesday, and Thursday in York Chapel while school is in session. Faculty and students share joint responsibility for these services.

A number of students find both intimacy and fellowship in one of several informal groups whose major purpose is to provide students with opportunities to express and share personal, professional, and spiritual developments with each other in weekly meetings on the campus and at home.

The Community Life Committee of the Student Representative Assembly annually plans at least six community-wide events for students and faculty. Weekend retreats present students with an opportunity to become better acquainted with each other and with faculty, and to explore matters of personal, professional, or spiritual concern. Dialogues on ministry occurring through the year help introduce students to practicing ministers and their personal, professional, and spiritual struggles and growth.

The Student Association. The officers of the Student Association are elected and serve as an executive committee for conduct of the business of the Representative Assembly.

The purpose of the association is to channel the interests and concerns of Divinity School students to the following ends:

1. to provide student programs and activities;
2. to represent students to the faculty and administration;
3. to represent students with other Duke University organizations; and
4. to represent students in extra-University affairs.

Divinity School Choir. A student organization of long standing is the Divinity School Choir. Membership is open to all qualified students. The choir sings regularly for chapel and at special seasonal programs and services. New members are chosen by informal auditions which are arranged for all who are interested.

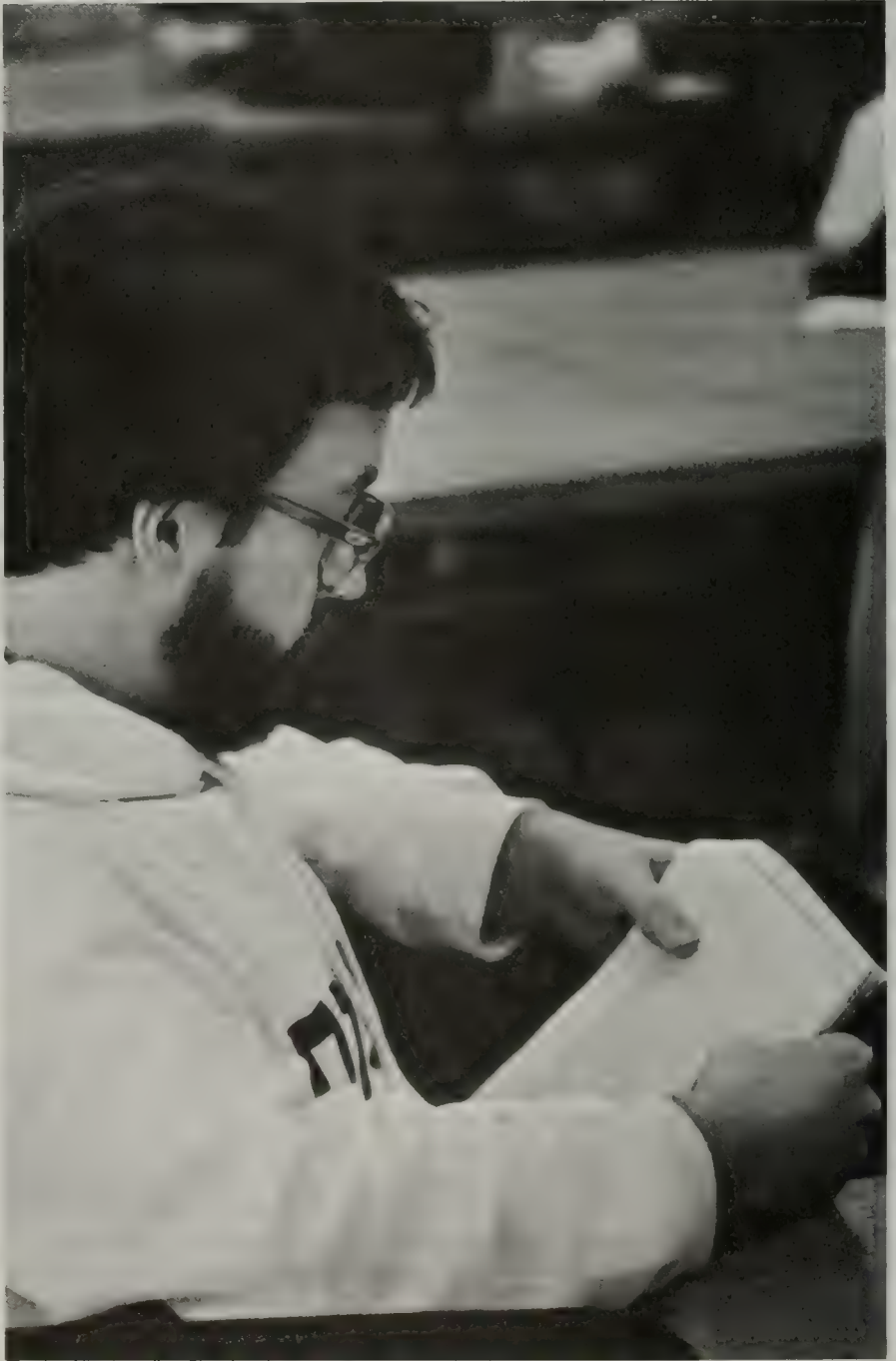
Divinity Spouses. Divinity Spouses is an organization which offers the spouses of regularly enrolled students opportunities for sharing interests and concerns. The spouses' program, which includes topical monthly meetings with a variety of speakers, small interest groups, and special projects, seeks to encourage and provide ways for spouses to become a more integral part of the Divinity School community. Monthly meetings are open to all persons. A favorite event each year is a progressive dinner for couples involving the visitation of a number of faculty homes.

The Black Seminarians' Union. This is an organization of black students whose major purpose is to insure the development of a theological perspective commensurate with the Gospel of Jesus Christ and relevant to the needs of black seminarians and the black church, to improve the quality of life academically, spiritually, politically, and socially in the Divinity School.

The Student Pastors' Association. This association provides students actively serving their denominations in an ordained or lay capacity opportunity to meet, to share, to plan, and to act on their common needs and concerns as those serving the church as senior and associate pastors while in school.

Women's Center. The Women's Center seeks to serve the entire Divinity School community through a focus on the special needs and contributions of women in ministry in and to the church and society today. The office, coordinated by two divinity women students, is a resource center for the whole community in addition to a support and action center for women in particular.

Financial Information



Fees and Expenses

Estimated Living Expenses. The total cost for a student to attend the Duke Divinity School varies according to individual tastes and requirements; however, experience indicates that a single student may expect to spend a minimum of \$7,000 for nine months and a married couple may expect to spend a minimum of \$12,000 for twelve months.

Housing Fees. Minimal on-campus housing cost for a single student will be approximately \$1,796 during 1982-83. An efficiency apartment for a married couple on campus will cost approximately \$3,006 for the academic term.

Housing fees are subject to change prior to the new academic year. A \$50 deposit is required on all reservations.

Rates for Central Campus Apartments will be quoted to applying students upon request to the manager of apartments and property. Refunds on housing fees will be made in accordance with the established schedules of the University.

Master of Divinity and Master of Religious Education Candidates. The table below lists basic minimum expenditures. In addition to the fees cited here, there is an admission fee of \$50 which is applied to the first term bill and a room deposit of \$50. See relevant sections on admissions and housing for full details.

	<i>Per Semester</i>	<i>Per Year</i>
Tuition—M.Div. and M.R.E.	\$1,750	\$3,500
Student Health Fee	85	170
Approximate Cost of Meals	790	1,580

Tuition will be charged at the rate of \$437.50 per course. The figures shown are for a program carrying eight courses per year. Students will be charged for additional course enrollments.

Master of Theology Candidates. A student who is a candidate for the Th.M. degree will be liable for tuition on the basis of eight courses at the rate of \$437.50 per course. All other costs and regulations for the Th.M. degree are the same as those for the M.Div. and M.R.E. degrees. Th.M. students are not ordinarily eligible for student financial aid.

Special Student. A special student is one who is enrolled for academic credit, but who is not a candidate for a degree at that time. The tuition will be charged on a course basis. Other costs and regulations are the same as those for the M.Div. and M.R.E. candidates. No financial aid is available.

Audit Fee. Anyone seeking to audit a course in the Divinity School must, with the consent of the instructor concerned, secure permission from the Associate

Dean's office. In accordance with the general University practice, a fee of \$78 per course will be charged all auditors who are not enrolled as full-time students or University employees.

Athletic Fee. Divinity School students may secure admission to all regularly scheduled University athletic contests held on the University grounds during the entire academic year by payment of the athletic fee of \$50 per year, plus any federal tax that may be imposed. The fee is payable in the fall semester.

Payment and Penalty. Tuition and all charges made by Duke University are due and payable prior to the beginning of each semester. Each student receives a bill from the office of the Bursar. This bill gives a date by which the account must be paid to avoid a late fee. There is a \$25 fee charged for any late registration.

A student reducing the total number of courses during the drop/add period prior to noon on 10 September 1982 for which he or she has paid will receive a full refund. Thereafter the refund schedule will be as follows: third to fifth week—60 percent; sixth week—20 percent; after the sixth week—no refund. If a student withdraws from school, the tuition refund will be according to the following schedule: withdrawal before the beginning of classes—full refund; during the first or second week of classes—80 percent; during the third to fifth week—60 percent; during the sixth week—20 percent; after the sixth week—no refund. Tuition or other charges paid from grants or loans will be restored to those funds, not refunded or carried forward.

These regulations apply to all Divinity School students—degree candidates, special students, and auditors.

Debts. No records are released, and no students are considered by the faculty as candidates for graduation, until they have settled with the Bursar for all indebtedness. Bills may be sent to parents or guardians provided the Bursar has been requested in writing to do so. Failure to pay all University charges on or before the times specified by the University for the semester will bar the student from class attendance until the account is settled in full.

Motor Vehicle Registration Fee. There is a \$20 registration fee for all automobiles (\$10 for two-wheeled motor vehicles) used on campus. For specifics see the chapter on Community Life.

Student Financial Aid

A student should select a school on the basis of educational opportunity. At the same time financial consideration will be a legitimate and often pressing concern. Each student should formulate at least a tentative plan for financing the entire seminary education. Although the exact method of financing the full theological degree may not be assured at the beginning, a student should have a clear understanding of the expenses and available sources of income for the first year and the assurance that there exist ways of financing subsequent years.

The Committee on Financial Aid will counsel the student concerning financial needs and possible resources. There is constant review of available resources in order to assist the greatest number of students. However, the basic financial responsibility belongs to the student who is expected to rely upon personal and family resources and earning and borrowing power. Other resources may include the student's church, civic groups, foundations, and resources of the school which may include grants, loans, field education grants, and employment. It is the goal of the financial aid office to assist each student in planning a financial program so that as little indebtedness as possible will be incurred.

The total amount available through the Divinity School is limited. Further, the conditions set forth by the individual or institutional donors determine the



circumstances under which the grants can be made. Almost without exception the donors require ecclesiastical endorsement and/or declaration of ministerial vocational aim.

The principles regarding the disbursement of financial aid are as follows:

1. Financial aid is recommended on the basis of demonstrated need. All students must file an application which substantiates needs and provides full information on potential resources. This is essential in order to make Divinity School funds available to the greatest number of students.
2. The total amount of financial aid available to any one student cannot exceed the average demonstrated need.
3. Grants will be made within the limits of the conditions set forth governing each source.
4. The conditions at the beginning of the academic year determining financial needs shall be the governing criteria for the year. Financial aid programs are set up on a yearly basis, except for those students who may enter the second semester and/or those few whose status may change.
5. Financial aid grants are made on a one-year basis. The assistance may consist of scholarships, loans, tuition grants, grants-in-aid, field education grants, and employment, which may be worked out in various combinations on a yearly basis. A new application must be filed each year.
6. Application for financial aid may be made by entering students at time of admission or currently enrolled students by December 1. Notification will be given after committee approval. Student pastors serving United Methodist churches can be notified after the pastoral charge and Annual Conference determine salary schedules. Financial aid applications for students anticipating fall matriculation are reviewed beginning in mid-February. Applications for assistance will not be accepted after 1 June for September enrollment or after 15 December for January enrollment.

7. Ordinarily financial aid is not available beyond six semesters (eight for pastors on reduced load).
8. Students who have questions about the Divinity School's response to their financial aid request should first speak with the financial aid secretary. Where desired, students may file an appeals form for full review by the financial aid appeals committee.
9. Special students and Th.M. students (with the exception of one international scholar annually) are not eligible for any form of financial assistance from the Divinity School. Th.M. students are eligible to apply for denominational and federal loans.

Financial Resources

Personal. In order that both the church and the Divinity School may be able to extend the use of their limited funds to as many students as possible, a student who desires a theological education should be willing to defray as far as possible the cost of such an education. Resources may include savings, earnings, and gifts, support or loans, and if married, earnings of a spouse. In calculating anticipated income, the student first considers personal resources.

Church. Many local churches and conferences or other governing bodies provide gifts and grants for theological education, such as ministerial education funds which provide grants and/or service loans to theological students. The student makes application to the home church, Annual Conference, Presbytery, or other governing body. The financial aid office cooperates with these church agencies in making recommendations and in handling the funds. *United Methodist students and others must be under the care of the appropriate church body to be eligible for church support.* The school cannot compensate for a student's indisposition to receive church funds when such are available on application through the Annual Conference Ministerial Education Fund or other agencies.

The Divinity School, as a member school of the Association of United Methodist Theological Schools, takes cognizance of and subscribes to recommended policy and practice regarding the administration of United Methodist Church funds for student financial aid as adopted by the association, 15 June 1970, and as bearing upon tuition grants, as follows:

Resources for tuition grants, scholarships or the like are primarily available to students with declared vocational aims leading to ordination or recognized lay ministries and supported by commendation or endorsement of appropriate church representatives. At the same time, we believe that consideration for a tuition grant may be accorded to students who adequately indicate conscientious concern to explore, through seminary studies, a recognized church-related vocation. Finally, it is our judgment that, where the above-mentioned conditions are deemed to be absent respecting a candidate for admission, the decision to admit such a candidate should be without the assurance of any tuition subsidy deriving from church funds. (AUMTS Minutes, 15 June 1970.)

Divinity School Scholarships. A limited number of scholarships are available to encourage qualified students to pursue their preparation for the Christian ministry.

Merit Scholarships. Each year the Divinity School awards ten scholarships to entering junior students on the basis of academic excellence in their undergraduate programs and promise for Christian ministry. The specific amount of a merit scholarship will depend upon a student's demonstrated financial need and will not exceed a maximum \$3,000.

Ten merit scholarships are given for the middle and senior years of study on the basis of class standing, i.e., the top ten achievers in each class receive the scholarships. The scholarships pay up to \$2,500 each, depending upon a student's demonstrated financial need.

The Dean's Scholarship. The Dean's scholarships will be awarded to at least ten recipients each year. These persons must represent strong promise for Christian ministry, academic achievement and demonstrated financial need. Factors which will be taken into account are ethnic origin, missional responsibilities for the Church at home and abroad, and special denominational needs. The specific amount of the scholarship will be based upon demonstrated need and may go up to \$2,500 per year. The scholarship is renewable for two years assuming continued academic attainment, development of ministerial promise, and demonstrated financial need.

International Student Scholarships. In cooperation with the Crusade Scholarship Committee of the United Methodist Church and other authorized church agencies, students are selected and admitted to courses of study. Scholarships for such students are provided from the Lewis Clarence Kerner Scholarship Fund and from individual churches and private philanthropy.

Tuition Grants. These are available in amounts commensurate with demonstrated need as adjudged by the Committee on Financial Aid. Entering students may apply, on notice of admission, by submitting the financial aid application to the Office of Financial Aid. Enrolled students may apply by annual renewal of their financial aid request. Because of the purpose and attendant educational objectives of the school, resources for tuition grants are primarily available to students with declared aims leading to ordination or recognized lay ministries.

Field Education Grants. Varying amounts are made available through the Divinity School to students who choose to participate in the field education program. The Offices of Field Education and Financial Aid work together in determining placement and grant amount. This program includes the summer assistants, winter assistants, and student pastors. See full description under the section on Field Education.

Duke Endowment Student Pastor Grants. United Methodist students serving under episcopal appointment as student pastors in the state of North Carolina may qualify for tuition assistance up to \$1,600 through the Duke Endowment. The Financial Aid Committee will determine student eligibility for such assistance after appointments are read at the meetings of the two North Carolina United Methodist Annual Conferences.

Loans. Loan funds held in trust by the University, as well as United Methodist student loans and funds supplied by the federal government through the National Defense Education Act of 1958 are available to qualified students. The application must be submitted by 1 July.

Unless otherwise indicated, all correspondence concerning financial aid should be directed to: Financial Aid Office, The Divinity School, Duke University, Durham, North Carolina 27706.

Employment. Students or spouses desiring employment with the University should apply to the Director of Personnel, Duke University. Students or spouses make their own arrangements for employment either in the city of Durham or on campus.

Special Funds

Certain special funds have been established, the income from which is used to provide financial aid through scholarships and field education grants for students wishing to secure training in preparation for Christian ministry. The resources listed below include endowed funds and funds which have a variety of purposes.

Alumni Scholarship Fund. This fund was established in 1976 by the alumni of the Divinity School to provide financial support for ministerial candidates.

R. Ernest Atkinson Legacy. This legacy was established in 1952 under the will of the Reverend R. Ernest Atkinson, Trinity College Class of 1917, Richmond, Virginia.

Fred W. Bradshaw Fund. This fund was established by Fred W. Bradshaw of Charlotte, North Carolina, to be utilized for the enrichment of the educational program of the Divinity School, especially to support distinguished visiting scholars and outstanding students.

Emma McAfee Cannon Scholarship. This scholarship was established in 1969 by Bishop William R. Cannon in memory of his mother, Emma McAfee Cannon, and is designated to assist students from the North Carolina Annual Conference of the United Methodist Church who are studying for the pastoral ministry and planning to spend that ministry in the North Carolina Conference.

James T. Cleland Endowment Fund. This fund was established by friends and students of James T. Cleland to create a Chair of Preaching in his honor. He was Dean of the Duke University Chapel from 1955 to 1973 and Professor of Preaching in the Divinity School.

E. M. Cole Fund. This fund was established in 1920 by Eugene M. Cole, a United Methodist layman of Charlotte, North Carolina.

Lela H. Coltrane Scholarship. This scholarship was established in 1980 by Mrs. David S. Coltrane of Raleigh, North Carolina, and friends of Mrs. Coltrane.

Robert Earl Cushman Endowment Fund. This fund was established in 1980 to create a professorship in honor of Robert Earl Cushman, Dean of the Divinity School, 1958–1971.

Dickson Foundation Awards. These awards were established by the Dickson Foundation of Mount Holly, North Carolina, to provide assistance to students who demonstrate financial need and superior ability. Preference is given to children of employees of American and Efird Mills and its subsidiaries, to residents of Gaston, Caldwell, and Catawba Counties, and to North Carolinians.

The Duke Endowment. Among the beneficiaries of the Duke Endowment, established in 1924, are the rural United Methodist churches of the two North Carolina Conferences. Under the Maintenance and Operation Program, Field Education Grants are available for Duke Divinity School students to serve in rural United Methodist churches under the Endowment and Field Education Program.

Henry C. Duncan Fund. The Village Chapel in Pinehurst, North Carolina, established this fund in 1982 in honor of its pastor, Chaplain Henry C. Duncan, a member of the Divinity School Class of 1949.

N. Edward Edgerton Fund. This fund was established in 1939 by N. Edward Edgerton, Trinity College Class of 1921, of Raleigh, North Carolina.

Will Ervin Scholarship Fund. An endowment established by Will Ervin in 1980 and administered by the Richlands United Methodist Church provides support for students preparing for Christian ministry.

George D. Finch Scholarship Fund. This fund was established in 1972 by George David Finch, Trinity College Class of 1924, of Thomasville, North Carolina.

W. Kenneth and Martha O. Goodson Fund. This fund was established in 1981 to honor Bishop Goodson, retired Bishop of the United Methodist Church, and Mrs. Goodson.

James A. Gray Fund. In 1947 James A. Gray of Winston-Salem, North Carolina, presented this fund to the Divinity School for use in expanding and maintaining its educational services.

P. Huber Hanes Scholarship. This scholarship was established by the late P. Huber Hanes of Winston-Salem, North Carolina, Trinity College Class of 1900, as a scholarship fund for Duke University, a portion of which is used to provide financial assistance for Divinity School students.

Richard R. Hanner, Jr. Scholarship. This scholarship was established in 1973 by friends of the late Richard R. Hanner, Jr., Trinity College Class of 1953, to support advanced work in Christian education.

Russell S. and Julia G. Harrison Scholarship Fund. This fund was established in 1980 by Russell S. Harrison, Divinity School Class of 1934, and his wife Julia G. Harrison. The income is for support of persons from the North Carolina Conference of the United Methodist Church preparing for ordained ministry as local church pastors.

Margaret Blount Harvey Fund. This fund was established in 1982 by C. Felix Harvey and Margaret Blount Harvey of Kinston, North Carolina.

Hebrew Evangelization Society Scholarship. The Hebrew Evangelization Society, Inc., founded in 1931 by Dr. A. U. Michelson, provides two full-tuition scholarships each year.

Franklin Simpson Hickman Memorial Fund. This fund was established in 1966 by Mrs. Veva Castell Hickman as a memorial fund in memory of her husband, who served as Professor of the Psychology of Religion, the Dean of the Chapel of Duke University, and the first preacher to the University. The income of the fund will support a regular visiting lecturer in preaching and financial aid to students who wish to specialize in the psychology of religion.

George M. Ivey Scholarship Fund. This fund was established in 1948 by a gift of George M. Ivey, Trinity College Class of 1920, of Charlotte, North Carolina.

George Washington Ivey Professorship. With initial funding by the Western North Carolina Conference of the United Methodist Church and later funding by George M. Ivey, George M. Ivey, Jr., Leon Ivey, and the Ivey Trust, the George Washington Ivey Chair is the oldest named professorship in the Divinity School.

Charles E. Jordan Scholarship Fund. This fund was established in 1969 by the family of Charles E. Jordan, former Vice-President of Duke University.

Amos Ragan Kearns Professorship. A gift from the late Amos Ragan Kearns was designated to establish a Chair in Religion.

Lewis Clarence Kerner Scholarship. This fund was established in 1959 by Beatrice Kerner Reavis of Henderson, North Carolina, in memory of her brother and designated for the assistance of native or foreign-born students preparing for service in world Christian mission.

Carl H. and Mary E. King Memorial Fund. This fund was established in 1976 by friends and family and is to be used for students preparing for the parish educational ministry.

Thomas A. and Ann Marie Langford Fund. This fund was established in 1981 in honor of Dr. Thomas A. Langford, Dean of the Divinity School, 1971-1981, and Mrs. Langford.

Laurinburg Christian Education Fund. This fund was established in 1948 by members of the First United Methodist Church, Laurinburg, North Carolina.

John Joseph Lewis Fund. This fund was established in 1982 by Marion Smith Lewis of Charleston, South Carolina.

Dr. D. M. Litaker Scholarship. This scholarship was originally established by Charles H. Litaker in 1946 in honor of his father, Dr. D. M. Litaker, Trinity

College Class of 1890, and was specified for the Divinity School in 1977 by the Litaker family. The income is for support of persons preparing for ministry in the Western North Carolina Annual Conference of the United Methodist Church.

Myers Park Scholarship Fund. This fund was established in 1948 by members of the Myers Park United Methodist Church, Charlotte, North Carolina.

W. Fletcher Nelson Scholarship. This fund was established in 1980 by friends of W. Fletcher Nelson, Duke Divinity School Class of 1930, of Morganton, North Carolina.

W. R. Odell Scholarship. This scholarship was established in 1946 by the Forest Hills United Methodist Church, Concord, North Carolina.

The Parish Ministry Fund. This fund was established in 1968 to provide continuing education opportunities for selected parish ministers and lay leaders from the Western North Carolina Conference of the United Methodist Church. The fund sponsors seminars, short study courses, and makes special grants for full-time study leaves. The program is administered by the Divinity School under the direction of the Parish Ministry Fund's Board of Directors.

Cornelius Miller and Emma Watts Pickens Memorial. This fund was initiated in 1966 by the Pickens brothers to honor their parents. Income provides assistance to the Divinity School Media Center.

William K. Quick Endowment Fund. This fund was begun in 1981 by Mr. and Mrs. Stanley S. Kresge to establish a Chair in Methodist Studies to be named for their pastor, William Kellon Quick, member of the Divinity School Class of 1958.

Gilbert T. Rowe Memorial Scholarship Fund. This fund was established in 1960 through the generosity of Divinity School alumni and friends of the late Professor of Systematic Theology.

Elbert Russell Scholarship. This scholarship was established in 1942 by the Alumni Association of the Divinity School in honor of the late Dean of the Divinity School and Professor of Biblical Theology.

Hersey E. and Bessie Spence Fund. A gift from the estate of Hersey E. and Bessie Spence was designated to establish a Chair in Christian Education.

Hersey E. Spence Scholarship. This scholarship was established in 1947 by the Steele Street United Methodist Church of Sanford, North Carolina, in honor of their former pastor and late professor in the Divinity School.

David Johnson and Mary Woodson Sprott Fund. This fund was established in 1982 by David Johnson Sprott of Winter Park, Florida.

Earl McCrary Thompson Scholarship. This scholarship was established in 1974 in honor of the late Earl McCrary Thompson, Trinity College Class of 1919.

The United Methodist Church. The United Methodist Church makes a substantial contribution to the Divinity School by designating a percentage of its Ministerial Education Fund and World Service Offerings for theological education. The general Board of Education makes available annually two National United Methodist Scholarships having a cash value of \$750 each.

The Divinity School Fellowship. This fellowship was established by a group of interested laypersons who provide support for students with demonstrated need.

Dempster Graduate Fellowships. The United Methodist Board of Education offers two fellowships each year for graduates of United Methodist theological

schools who are engaged in programs of study leading to the Ph.D. degree in religion. A number of Divinity School graduates have held these fellowships.

CENTER FOR STUDIES IN THE WESLEYAN TRADITION

The resources of this fund are used for teaching, research, and special projects to enhance exploration of and dissemination about the ecclesiastical tradition initiated by John Wesley.



Field Education



A Ministerial Development Program

As the clinical dimension of theological education, field learning is designed to: (1) help students develop vocational identity as ministers by providing experience with a variety of ministry tasks; (2) provide a ground for the testing and reconstruction of theological concepts; (3) develop the ability to do critical and reflective thinking by relating theory and experience; (4) help students develop ministry skills to achieve an acceptable level of professional competence; (5) integrate academic studies, personal experiences, and critical reflection into a personal spiritual foundation that produces a confident and effective ministry.

Field Education Credit Requirements

Two units of approved field education placement are required for graduation in the Master of Divinity degree program. A unit is defined by one term placement, either a summer term of ten weeks or a winter term of thirty weeks at fifteen hours per week. To be approved, the field setting must provide ministerial identity and role, distinct ministerial tasks, qualified supervision, a service-learning covenant, regular supervision conferences, and effective evaluation. Each unit also requires completion of the appropriate field education seminar concurrent with or immediately following the field placement.

The seminar required for each unit of credit will include the use of case material prepared by the student and critical reflection upon the nature and task of ministry as it is experienced in an approved field setting. Seminars will be led by faculty and ministers. The field seminars must be taken in sequence: FE I, Ministerial Development Seminar, must be *completed* by the end of the third semester of study and is prerequisite to FE II, Ministerial Practice Seminar, taken during one of the last two semesters of study. One unit of clinical pastoral education may be substituted for FE I. Students must be enrolled in the school and have full-time status to be eligible for credited field seminars.

To qualify for credit the student must apply and be approved for a credited placement, develop and complete a learning covenant with acceptable quality of work, cooperate with the supervisor, participate in the assigned seminar, and prepare an evaluation of the experience. Evaluation and grading will be done by the field supervisor, student, and seminar leader.

Field Settings for Ministry Development

Field placements are usually made in settings that have been developed and approved by the Divinity School. They offer opportunities for ministerial service with supervision, pastoral identity, and evaluation.

A wide variety of ministry settings is available for varying student interests: parish settings include rural, suburban, central urban, cluster groups, larger parish patterns, and staff team ministries; institutional settings include mental health institutions, prisons, youth rehabilitation centers, mental retardation centers, and retirement homes; campus ministry settings include positions on the campus of a variety of schools as well as internships in college teaching.

While the Divinity School offers this rich diversity of settings for personal and ministerial development, the large majority of assignments fall in local churches in small communities. Because of the Divinity School's ties with the United Methodist Church, most field placements occur in that tradition. However, the Divinity School will do everything possible to see that each student completes at least one assignment in his or her own denominational tradition.



Internship Program

An internship assignment embraces both a full-time salaried position and a learning commitment in a single context over a period of time ranging from four to twelve months. These assignments are designed to engage the student in considerable depth in particular ministry skills in a setting relevant to the vocational area of interest. They must encompass an advanced level of specialized field experience which is more complex and extensive in its serving and learning potential than the basic field education short-term placement. The internship may be individually designed to meet the needs and interests of the student, provided that the plan includes a student learning covenant, an agency service contract, approved supervisory standards, an investigation-research project acceptable to the assigned faculty adviser, and participation in either a colleague group or seminar. When these components are satisfactorily met and the evaluation reports are filed, credit for up to two courses (six semester hours) may be assigned for the internship. No additional academic credit may be accumulated during the internship year. Grading for the two course credits will be on a pass/fail basis.

Internship settings may be student initiated or negotiated by the School. In either case an agency contract covering all agreements must be made and filed with the Assistant Dean for Field Education. Types of settings occasionally available for internship placement include: campus ministry and college chaplaincy positions; parish ministry positions—such as associate pastor, parish director of education; institutional positions; and a world mission internship of one to three years of national or overseas service. Other internships in the church or in specialized ministries in the secular world may be planned in consultation with the Assistant Dean.

To be eligible to register for an internship, the student must have completed at least one-half of his or her degree program and be registered as a student in good standing in the Divinity School. Application forms and processing for internships will be done through the Office of Field Education.

Students Serving As Pastors

Students frequently serve as pastors of churches, or part-time associates, during the period of their study in the Divinity School. These appointments are made by the appropriate denominational official or body. The Divinity School recognizes this arrangement and recommends that the student consult with the Assistant Dean for Field Education, as agent of the Dean, before accepting an appointment as pastor or associate pastor.

The Field Education Office cannot make these appointments. This is within the jurisdiction of denominational authorities, and students should initiate their own arrangements. The Field Education Office, however, will provide current information concerning pastoral appointments open to students and will send references upon request to ecclesiastical officials.

Students who serve in these capacities ordinarily may enroll in no more than three courses per semester, thus requiring, in most cases, eight semesters to complete the Master of Divinity degree. Relaxation of this regulation requires the permission (on the appropriate form) of the supervising church official, the Assistant Dean for Field Education, and the Associate Dean for Curricular Affairs. Students are strongly and actively discouraged from attempting to commute more than fifty miles one way on a daily basis. Extensive commuting tends to jeopardize the student's academic program, health, ministry, and family life.

In keeping with the goal of the school to develop professional competence in ministry, students should use their pastoral appointments as learning contexts for field education programs initiated by the school. Special seminars and reflection



groups are arranged in consultation with students to advance their professional growth and performance. For particular field learning projects, a supervisor may be assigned to guide the pastor's learning activity in the parish. Periodic evaluation will be expected from both supervisors and pastors. The required field education units may be done in the pastor's parish, if all the conditions outlined for credit are met, and all reports are completed and filed at the appropriate time.

Field Education Seminars

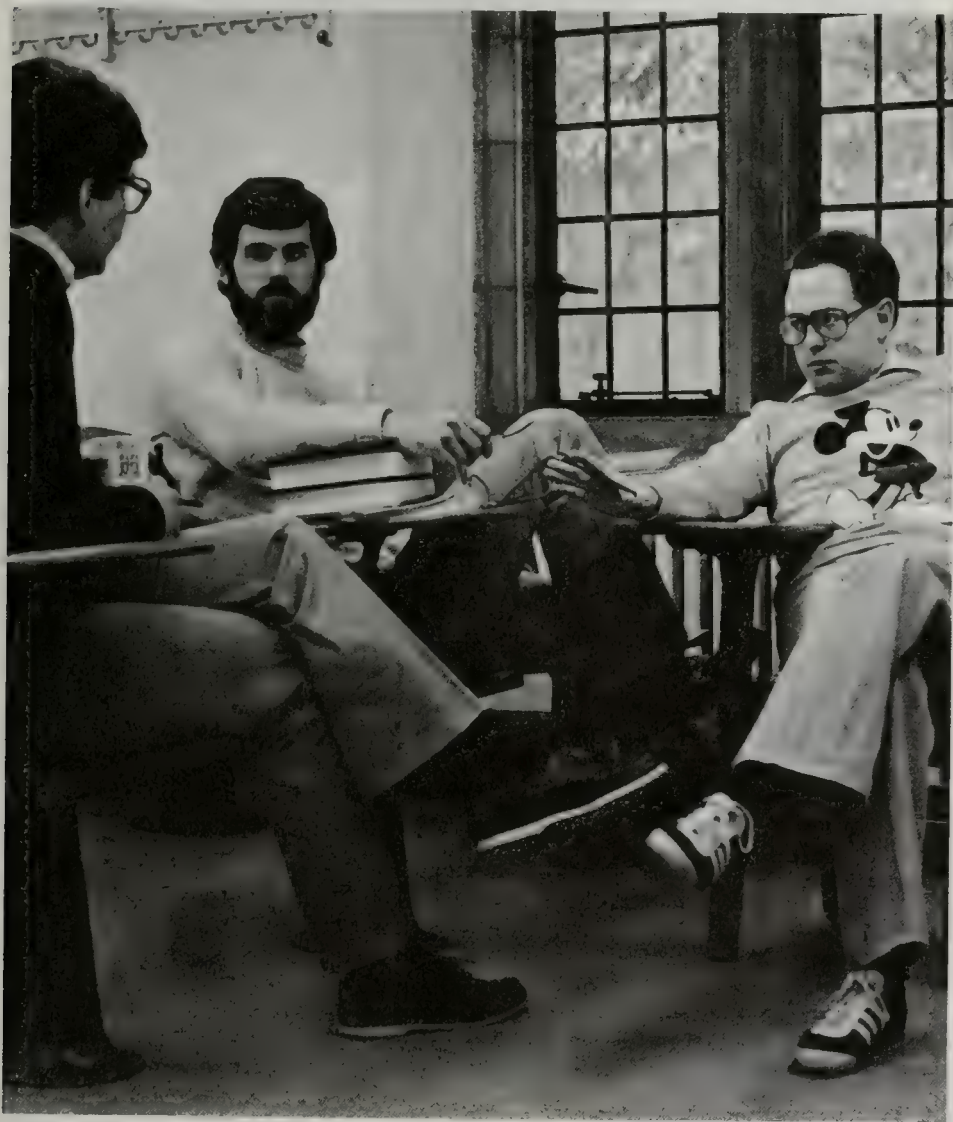
The two field education units of credit required for the Master of Divinity degree may be earned by approved field placement and participation in the seminars listed below. FE I is prerequisite to FE II. Seminars must be concurrent with, or must immediately follow, involvement in the approved field setting.

FE I. Ministerial Development Seminar. Through the use of case material, critical reflection upon the nature and task of ministry as experienced in a field

context with special emphasis upon vocational development and ministerial role. Must be completed by end of third semester of study. Two hours a week. *Faculty or staff leadership*

FE II. Ministerial Practice Seminar. Case studies to develop competence in church administration, preaching and worship, pastoral care and counseling, and religious nurture and teaching. Must be completed during the last two semesters of study. Two hours a week. *Faculty, staff, and professional ministerial leadership*

Registration for these seminars should be done through the Registrar's office at the normal registration time. Since no semester-hour credit values are assigned to these seminars, there will be no tuition charge for them. A quarter of clinical pastoral education completed in an approved setting may be substituted for both approved field placement and Field Education Seminar I but students who choose CPE for their Field Education II requirement will be required to take the FE II seminar.



Black Church Studies



The Black Church Studies Program

Black Church Studies at Duke Divinity School is an engagement of the Divinity School with the black church, black theology, and the black community, and represents an appreciation for study of and involvement in black religious experiences. The Black Church Studies Program exists to illuminate the several dimensions of these experiences, to study the contributions which the black church has made and is making to both the black community and American culture, and to help actualize the potential for service to the church through its special concerns for ministry and mission to black people in both church and community. The program is a concrete expression of the role of Black Church Studies in theological education which undertakes faithfully to serve Christ and his Church.

The Black Church Studies Program is the visible evidence of a quest for ministry, justice, and community among Divinity School faculty and students. It is a quest of teachers and seminarians, clergy and laity from both races for clearly developed curricular programs, research projects, and continuing education. It is recruitment, counseling, supervision, curriculum development, research, teaching, academic advising, continuing education, and service to black churches and congregations. It is, in conception and nature, an instrument which serves both internal and external interests of the Divinity School; and its immediate clientele is simultaneously the academic and religious communities.

The list of current course offerings in Black Church Studies may be found in this catalogue in the chapter "Courses of Instruction." Staff and faculty include Dr. Lawrence E. Johnson, Dr. C. G. Newsome, and Mr. William C. Turner, Jr. Dr. Johnson was appointed Director of Black Church Affairs in January 1979. Dr. Newsome is Assistant Professor of American Christianity; Mr. Turner is Instructor in Theology and Black Church Studies. In addition, black faculty from the religion department and from other departments of the University complement our offerings, and associates in instruction are secured as need arises.

The Black Church Studies Program and the Black Church Affairs Office work cooperatively. The Black Church Studies Program functions in the areas of academic studies, curriculum development and teaching, and research. The Black Church Affairs Office provides counsel and advice to prospective black seminarians in undergraduate schools, and has responsibility for continuing education for black pastors, recruiting, advising students about field education, placement, financial aid, adjustment, and a broad range of other student requirements. We encourage and welcome inquiries concerning a program of studies at Duke Divinity School. Further information about the Black Church Studies Program or the Black Church Affairs Office is available from the Director, Duke Divinity School, Durham, North Carolina 27706.

Continuing Education



The Continuing Education Center

Through the Continuing Education Center the Divinity School offers extensive opportunities in education for ministry. The Charles P. Bowles Continuing Education Center in the new wing of the Divinity School includes seminar rooms and spacious study carrels for ministers involved in individual study or in-residence seminars. The Divinity School Library; the Henry Harrison Jordan Loan Library; the growing collection of tape recordings of sermons, lectures, and interviews; the Pickens Communications Center; and *The Duke Divinity School Review* are also available for continuing education for ministry. The Divinity School provides a year-round program of in-residence seminars and conferences, extension seminars and consultations, and special services to ministers and churches throughout the nation.

Admission and Scholarships

Conferences, churches, and other supporting groups and institutions have made available through the Divinity School certain designated funds to assist in continuing education for ministry. Inquiries, applications for admission, and requests for continuing education scholarships for in-residence seminars should be directed to: Director of Continuing Education, Duke Divinity School, Duke Station, Durham, North Carolina 27706.

In-Residence Seminars and Conferences

During the academic year 1981-82 the Divinity School conducted or cosponsored a series of in-residence continuing education seminars, workshops, and conferences, with faculty and guest leaders. These included "Preaching and Worship in Lent and Easter," "Faith, Science and the Future," "Pastoral Care and Counseling in the Black Church," "Education for Spiritual Growth," "Faithful Preaching to the '80s," "Moral Authority in a Pluralistic Society," "Initiation and Catechesis," "The Black Church and Ministry to the Elderly," "Children and the Lord's Supper," and "Theological Foundations for Ministry." In addition, special seminars have been done for many districts, young ministers preparing for ordination examinations, and special interest groups. Numerous individual ministers have been guided in special short-term and semester-long continuing education studies in the Divinity School.

The Spring Institute for Ministry was held 3-21 May.

The third week of the institute was a major week-long conference entitled "The Church and the Arts." The conference was designed for ministers, church

program directors, Directors of Christian Education, and church musicians. The focus was the practical use of drama, dance, music, and art in the programming needs of the local church. This workshop involved faculty from throughout the University.

Extension Seminars, Workshops, and Lectureships

Extension services in continuing education for ministry during 1981–82 included a varied series of seminars, workshops, lectureships, and conferences held in cooperation with district and conference continuing education committees, church agencies, and institutions of higher education and professional training for ministry. The Director of Continuing Education and other Divinity School and associated resource leaders provided such services as lectureships and preaching in pastors' schools and conferences, theological schools, and Christian educators' conferences in many states. Other services included faculty leadership in district colleague group studies and in Institute for Homiletical Studies groups, and cosponsorship of seminars at the Intentional Growth Center, Lake Junaluska.

Two faculty-led "Introduction to Mexico" travel-study seminars included ministers, laity, and divinity students. The Divinity School also offers a study seminar to China entitled: "The Challenge of Changing China."

The Convocation and Pastors' School

The annual Divinity School Convocation and North Carolina Pastors' School, a cooperative endeavor with the North Carolina and Western North Carolina Conferences of the United Methodist Church through the Board of Managers of the Pastors' School, brings together ministers, lay persons, students, and faculty for a series of lectures, sermons, and courses, along with alumni reunions and social occasions.

The Gray Lecturer in 1981 was Geoffrey Wainwright of Union Theological Seminary, New York. Dean Jameson Jones was the Hickman Lecturer. Other lectures, services of worship, and workshops were led by Bishop Ole Borgen, Bishop William R. Cannon, Leontine Kelly, Russell Montfort, Lloyd Bailey, John Bergland, Bonnie Jones, Creighton Lacy, C. G. Newsome, Harmon Smith, and Robert L. Wilson. Alumni gathered for class reunions and the general Alumni Association Luncheon, at which Wilson O. Weldon, Class of 1934, received the Distinguished Alumnus Award.

Lectures and Symposia

The James A. Gray Lectures. These annual lectures, established in 1950 as part of a bequest made in 1947 by James A. Gray of Winston-Salem, North Carolina, are delivered in the context of the Divinity School Convocation and North Carolina Pastors' School. The 1981 Gray Lecturer was Dr. Geoffrey Wainwright of Union Theological Seminary, New York. The 1982 Gray Lecturer will be Hugh Anderson of the University of Edinburgh.

The Franklin S. Hickman Lectureship. This lectureship was established in 1966 as part of a bequest by Mrs. Franklin S. Hickman in memory of her late husband, Dr. Franklin Simpson Hickman, Professor of Psychology of Religion, Duke Divinity School, and Dean of the Chapel, Duke University. This lectureship enables the Divinity School to bring practicing ministers of extraordinary qualities to lecture and preach in the Convocation and Pastors' School and to participate in Divinity School classes, worship, and informal sessions with students and faculty. The 1981 Hickman Lecturer was Dean Jameson Jones. The 1982 Hickman Lecturer will be Browne Barr of San Francisco Theological Seminary.

Symposium on Christian Missions. Each year the Divinity School presents a symposium on the world mission of the church, usually including a visit by a secretary or missionary personnel. The general aims are "to inform students and faculty of the philosophy and work of missions as seen through the personal experience of speakers; to educate present and future ministers so that they will have a vital concern for the promotion of missionary education in the local church; and to evaluate the missionary enterprise as a significant force in the revolutionary world."

Ministry in the Vicinity

Ministers and churches in the vicinity of Duke University are especially welcome to avail themselves of continuing education programs, facilities, and other services of the Divinity School and its faculty and students. They are invited to attend public lectures, visit with distinguished lecturers, participate in in-residence seminars and conferences, audit selected courses, study in the continuing education carrels, and use the resources of the Divinity School Library, the Henry Harrison Jordan Loan Library, and the tape recordings collection. Divinity School faculty, staff, and students are generally available for preaching, teaching, and other services in churches of the community and region.

The Course of Study School

In cooperation with the Department of Ministry of the Board of Education and the Southeastern Jurisdictional Conference of the United Methodist Church, Dr. Dennis M. Campbell directs the Course of Study School for pastors of the United Methodist Church. This school is in session for approximately four weeks each summer and the required studies for one full year can be completed in this period. This is not a part of the regular work of the Divinity School degree program, and no credit toward a seminary degree can be earned. The faculty includes representatives from the Divinity School and other church-related institutions. The thirty-fourth session of the Course of Study School was held 21 June-16 July 1982.

The J. M. Ormond Center for Research, Planning, and Development

This center was established in memory of the late Dr. J. M. Ormond, Professor of Practical Theology of the Duke Divinity School and Director of the Rural Church Program under the Duke Endowment, 1923-48. The North Carolina Annual Conference established the J. M. Ormond Fund in 1951 as part of the special effort of the North Carolina and the Western North Carolina Conferences of the United Methodist Church to provide additional program at the Divinity School. The center is directed by Dr. Robert L. Wilson, Research Professor of Church and Society. It is jointly supported by the Ormond Fund and the program of the rural church under the Duke Endowment.

The center has three purposes. First, it assists the Church in its ministry by providing research and planning services. Second, it provides training for ministerial students in church and community studies. Third, it contributes through basic research to the understanding of the nature and functioning of the Church. Emphasis is given to research and planning studies of rural United Methodist Churches in North Carolina.

The Henry Harrison Jordan Loan Library

Henry Harrison Jordan, (1862-1931), distinguished member of the Western North Carolina Conference, was memorialized by his children by the establish-

ment of an endowment in 1947. The Divinity School Librarian is the custodian of books purchased under this fund for loan, through postal services, to qualified ministers of all denominations or localities. The Jordan Loan Library undertakes to maintain a catalogue of up-to-date publications representative of the several theological disciplines and areas of the minister's professional interest. Books may be borrowed by application to the Librarian of the Divinity School.

The Duke Divinity School Review

The Divinity School publishes a magazine designed to acquaint its readers with current theological thinking through the inclusion of public addresses given at the school, articles by faculty members and others, and book reviews. The *Review* is circulated free of charge to a mailing list of some 2,600, including alumni of the School, interested friends, campus ministers, teachers, administrators, and librarians. It is also available to students upon request.

Other Programs

Duke Summer Session. While the Divinity School does not presently offer a regular summer program, students may enroll for intensive Biblical language courses (Greek in 1981, Hebrew in 1982) or individual directed study. Summer courses of graduate level may also be taken in other departments as cognate credits (maximum of two, see provisions under Administration of the Curriculum). Permission for such credits must be secured in advance from the instructor and from the Divinity School Registry, but official registration and payment of fees are handled in the Office of Summer Educational Programs, 120 Allen Building, Duke University, Durham, North Carolina 27706.

Facilities for Advanced Study through the American Schools of Oriental Research. Duke University is one of the supporting members of the American Schools of Oriental Research. Accordingly, students in the Divinity School have the privilege of attending the Albright Institute of Oriental Research in Jerusalem, the American Center of Oriental Research in Amman, and similar institutions without charge for tuition. They may also compete for the four fellowships offered annually by the Schools, the stipends depending upon available funds.

Programs in Pastoral Psychology. Programs in pastoral psychology beyond the studies incorporated in the M.Div. curriculum are provided in cooperation with the Duke University Medical Center. Three such special programs are available.

1. The Master of Theology degree with a major in pastoral psychology is ordinarily a calendar year program beginning the first full week in June. However, upon the recommendation of the staff, candidates with a quarter or more of clinical pastoral education may begin their program in September. The candidate may plan one of three programs or concentrations: a concentration in pastoral theology relating psychology and theological understanding to professional ministry, especially the parish, through course work and supervised field or clinical experience; a concentration in pastoral care through course work and an intern year in basic clinical pastoral education; and a concentration in pastoral counseling through course work and a year of advanced clinical pastoral education. In the context of clinical pastoral education various professional goals may be sought including general understanding and skills in pastoral care and specialization in pastoral counseling and clinical supervision. The program in clinical pastoral education is certified by the Association for Clinical Pastoral Education. Persons specializing in pastoral counseling will ad-



vance toward certification with the American Association of Pastoral Counselors. A quarter of clinical pastoral education (PP 277A or its equivalent) is considered a prerequisite for all programs. Degree candidates who extend their program over the calendar year receive three certified units of clinical pastoral education and nondegree candidates receive four certified units.

2. Single quarters of Basic Clinical Pastoral Education are offered each summer (beginning the first Monday in June and running for eleven weeks) and during the academic year extended over two semesters. When the quarter is completed within one semester, the student may take two other courses in the regular M.Div. program; when it is extended over two semesters, the student may take three other courses. Two transfer course credits will be granted for a summer CPE quarter or two course credits will be granted for the quarter taken during the academic year (unless a course credit has already been granted for PP 177, in which case only one additional credit will be given for the CPE quarter).

Students in CPE may not have other field education appointment or employment. However a CPE quarter will, when satisfactorily completed, count as one field education unit if taken in relation to either Field Education Seminar I or II. Only one field education requirement may be fulfilled by CPE.

Students are reminded that ordinarily no more than five courses out of twenty-four for the M.Div. degree should be taken in any one subdivision.

3. A one-year certificate or nondegree internship program in clinical pastoral education is available through the Duke Medical Center for persons who hold the Master of Divinity degree or its equivalent. Also, students who wish to pursue a pregraduation intern year are invited to apply, provided they have completed at least one year of theological education. The certificate, nondegree intern year can be done at any level of clinical pastoral education (basic, advanced, supervisory) at which the candidate and the supervisory staff judge appropriate. These persons may enroll in the Divinity School as special students for a course or two each semester. Such training usually provides four quarters of certified clinical pastoral education credit.

Admission to either the basic unit or the internship program of Clinical Pastoral Education is distinct from admission to the Divinity School. Applications for CPE enrollment are available in the Chaplain's Service Office, Duke Medical Center. The deadline for filing CPE applications is normally 15 January for the summer quarter and the intern year and 1 March for the extended quarter and the resident year.

For further information concerning any of these programs, write to Dr. Richard A. Goodling, Director, Programs in Pastoral Psychology, Duke Divinity School. See the section on the Master of Theology degree program.

Library Funds

The following funds provide resources to enrich the collections of the Divinity School Library.

Ormond Memorial Fund. Established in 1924 by Dr. J. M. Ormond, '02, and Mrs. Ormond, in memory of his mother and father, Mr. and Mrs. J. J. Ormond, the income from the Ormond Memorial Fund is to be used for the purpose of a collection of books on the rural church for the Divinity School Library at Duke University.

Avera Bible Fund. Established in 1895 by gift of Mrs. L. B. McCullers in memory of her husband, Willis H. Avera; the income to be used for the purchase of books for the Divinity School Library and for the support of the Avera Bible Lectures.

Louis W. Bailey Memorial Fund. This memorial fund was established in 1958 by the Reverend A. Purnell Bailey in memory of his father. The income is to be used for books for the Divinity School Library.

Stuart C. Henry Collection Endowment Fund. This fund was established by the Class of 1975 in honor of Professor Henry with income to be used to purchase books in the collection on American Christianity.

The William Arthur Kale, Jr. Memorial Fund. William Arthur Kale, Jr. was a member of the Duke University Class of 1958, a lover of sacred art and music, and a member of the University Chapel Choir. In 1964 his parents, Professor and Mrs. William Arthur Kale, Sr., established a fund in his memory for the purchase of books and other materials in the area of fine arts and religious musicology for the perpetual enrichment of the holdings of the Divinity School Library.

The Walter McGowan and Minnie Daniel Upchurch Fund. Established in 1971 by W. M. Upchurch, Jr., an alumnus of Duke University and a member of its Board of Trustees, the fund, honoring Mr. Upchurch's mother and father, is used for the purchase of materials in the area of sacred music and is supplementary to a collection of materials given by Mr. Upchurch to the Divinity School Library. This collection includes 1,487 anthems and other compositions of sacred music, along with sixty-two disc recordings of the Duke University Summer Chapel Choir for the years 1937-41, at which time Mr. Upchurch was director of the choir.

Curriculum



Degree Programs

The academic work of the Divinity School embraces three degree programs: the Master of Divinity degree (M.Div.) ordinarily of three academic years; a one-year program beyond the basic degree, the Master of Theology (Th.M.); and a third program of two academic years leading to the degree of Master of Religious Education (M.R.E.). All are graduate-professional degrees. Admission to candidacy for any of these three degrees presupposes the completion of the A.B. or its equivalent.

Students preparing for ordination to the Christian ministry and requiring appropriate graduate-professional education will enroll for the Master of Divinity degree. Students whose acquired academic standing, under this basic degree program, entitles them to further specialized study may advance their command of selected theological disciplines by applying for an additional year of studies leading to the Master of Theology degree. Together, these two degree programs constitute a sequence. Although the Master of Divinity degree fulfills requirements for ordination by prevailing ecclesiastical standards, the Th.M. program may assist in assuring a larger measure of professional preparation. Application for admission to the Th.M. program is open to graduates of other schools who have completed the basic theological degree.

The Master of Religious Education degree program is designed to prepare qualified persons, ordinarily not seeking ordination, for a ministry of Christian education in local churches or other organizations. The course of study is arranged to provide grounding in Biblical, historical, and theological disciplines as essential background for instruction in and exercise of professional competence in curricular planning, teaching methods, and supervision of educational programs for various age groups.

The specific requirements for each of these degrees are found in the succeeding pages. It is evident that completed course work cannot be credited toward more than one degree. Reciprocal transfer of credit for course work taken under either the M.Div. or the M.R.E. program requires the permission of the Associate Dean for Curricular Affairs.

Doctoral Studies Accredited by the Graduate School

The Divinity School provides a substantial body of course offerings at an advanced level in Biblical, historical, and systematic and contemporary theological disciplines that are accredited alike by the Graduate School and the faculty of the Divinity School, and lead to the Doctor of Philosophy degree. Sharing responsi-

bility with the University Department of Religion for staffing and curricular provision of this course of study, the Divinity School is the principal contributor to the program of graduate studies in religion. However, since the Ph.D. in religion is certified and awarded under the Graduate School, the doctoral student's admission and matriculation are administered under that division of Duke University.

With few exceptions, most courses in the *Bulletin of The Divinity School* carrying a 200 number or above and belonging to the fields noted above are applicable to doctoral programs of study. These courses are open to qualified M.Div., Th.M., or M.R.E. students by permission of the instructor.

Qualified persons who desire to pursue studies leading to the degrees of M.A. or Ph.D. in religion, under the administration of the Graduate School, are advised to apply to the dean of that school. Inquiries concerning fellowships or specific requirements of the Program of Graduate Studies in Religion may be addressed to the Director, 209 Divinity School.

Administration of the Curriculum

Students are required at the time of each registration period to plan their course of study with the consultation and approval of their assigned faculty advisers. Such programs are subject to the review and approval of the Committee on Academic Standing, the Dean, and the Associate Dean for Curricular Affairs. It is the responsibility of each student to see that all requirements for graduation (and for ecclesiastical ordination) are met, and that any special permission granted to deviate from the normal program is properly recorded on the personal files in the registry.

Grading System. The Divinity School employs the grading scale with the following letters, *A*, *B*, *C*, *D*, and *F* which have been defined as follows: *A*, excellent; *B*, good; *C*, satisfactory; *D*, passing; *F*, failure; *WI*, withdrew illness; *W*, withdrew, discretion of the Dean; *I*, incomplete; *P*, passed; *NC*, noncredit; *Z*, year course. At the discretion of the instructor, individuals or classes may in certain instances be graded simply as pass or fail. Such *P/F* grades shall be limited to no more than 25 percent of a student's total curriculum at Duke and will not be figured in the grade point average.

The denotations are defined as follows according to quality points: *A*, 4; *A-*, 3.7; *B+*, 3.3; *B*, 3.0; *B-*, 2.7; *C+*, 2.3; *C*, 2.0; *C-*, 1.7.

Limited Program. Students whose work after admission is not satisfactory may be placed on limited programs by the Academic Standing Committee and required to reduce their course loads or to make other academic adjustments. Students who during the first year of Divinity School maintain less than a *C* (2.0) average, including failures, ordinarily will be required to withdraw from the school.

Incompletes. A student may petition the Associate Dean for Curricular Affairs to receive a grade of incomplete in a course. This petition must be filed in writing on the prescribed form with the registry on or before the last official day of classes of the semester in question. Such permission may be granted when a student, through some circumstances beyond control, such as illness, has been hindered from meeting the course requirements. Adjudication of the petition will rest with the Associate Dean and the instructor concerned. The Associate Dean will communicate in writing to the student regarding the joint decision and any conditions attached thereto. An incomplete becomes an *F* unless it is removed through completion of assigned work by the following dates: for incompletes incurred in fall semester courses, 1 February; for incompletes incurred in spring semester courses, 15 September.

Change of Courses or Withdrawal. Students are permitted to change their course registrations, without incurring a penalty, during the prescribed drop/add period at the beginning of each semester. Any alteration in the number of courses must be officially reported and recorded. The adding of a course requires the permission of the instructor of that course as well as the student's faculty adviser. Any refund of tuition related to withdrawals will be according to the published schedule.

No student will be permitted to withdraw from a course after one-half of the semester without incurring failure, except for causes adjudged by the Associate Dean for Curricular Affairs to be beyond the student's control. Conditions of genuine emergency and not considerations of convenience will be determinative in considering requests, which must be submitted in writing on academic petition forms.

Leave of Absence. A student wishing to take a leave of absence for one or two semesters, and intending to return to a degree program in the Divinity School, should so notify the Associate Dean for Curricular Affairs in writing in advance. No leave of absence will be granted for more than one full academic year, although an emergency extension may be requested from the Associate Dean.

Withdrawals from School. Students deciding to withdraw from the Divinity School, for whatever reason, should consult with their faculty advisers and the Associate Dean for Curricular Affairs, and must file a written statement of withdrawal prior to departure. All students who have officially withdrawn or whose leave of absence extends beyond one academic year but who wish later to return to the Divinity School will be required to reapply for admission, and provide whatever documentation is required by the Director of Admissions.

Directed Study. Students may, with permission of their faculty advisers and the instructors involved, take one or two units of Directed Study, preferably not in the same semester. These independent study courses under individual faculty supervision are ordinarily in subjects at an advanced level which cover material not available in the regular curriculum. Students wishing to take more than two courses by Directed Study must have permission from the Associate Dean for Curricular Affairs in consultation with the student's faculty adviser and the instructor who agrees to direct that study.

Cognate Courses. Students may, in consultation with their faculty advisers, take up to two graduate level courses in other departments of Duke University or at the University of North Carolina. Permission for more than two such cognate courses must be secured from the Associate Dean for Curricular Affairs, but courses in the Duke Department of Religion do not count within this limit.

Graduation with Distinction. Students who achieve a grade point average of 3.85 for overall academic records in the M.Div. and M.R.E. programs are granted the degree *summa cum laude*. Students with a grade point average of 3.65 or above are awarded their degrees, *magna cum laude*. Such distinction is calculated on the basis of letter grades only, totaling at least three-quarters of all courses taken at Duke, and will be indicated on the student's diploma.

Part-Time Students. Students taking less than three courses in any given semester are considered part-time students and are ineligible for financial aid from the school or student health services.

Auditors. Full-time students paying for at least three courses are permitted to audit additional courses, if space permits, with the approval of their advisers, the Associate Dean for Curricular Affairs, and the instructor of the class. Special students, part-time students, or persons not candidates for degrees in the University are charged an audit fee for each such course.

The Basic Theological Degree—Master of Divinity

The faculty of the Divinity School constantly endeavors to review the curriculum as a whole and to tailor individual courses to meet the needs of a rapidly changing world. Major curricular revisions were instituted in 1948, 1959, and 1967. The curriculum is, therefore, not static but dynamic and is always subject to emendation by the faculty.

This degree program is structured to elicit a positive response to: (1) the challenge to provide an adequate professional education—education for ministry; (2) the needed variability of ministries in today's complex world; (3) the norms of university education; and (4) the Christian tradition.

Aims of the Curriculum. The aims of the basic degree program focus upon four goals, four areas of personal and curricular responsibility, four life-long tasks which should be strongly advanced during the seminary years.

1. *The Christian Tradition.* To acquire a basic understanding of the Biblical, historical, and theological heritage.
2. *Self-Understanding.* To progress in personal and professional maturity—personal identity, life style as an instrument of ministry, major drives, handling of conflict, resources, and professional competency and so forth. This is to be coupled with a sensitivity to the world in which we minister—its social forces, its power structures, its potential for humanization and dehumanization.
3. *Thinking Theologically.* To have the ability to reflect about major theological and social issues and to define current issues in theological terms and theological issues in contemporary secular terms.
4. *Ministering-in-Context.* To have the ability to conceptualize and participate effectively in some form of contemporary ministry.

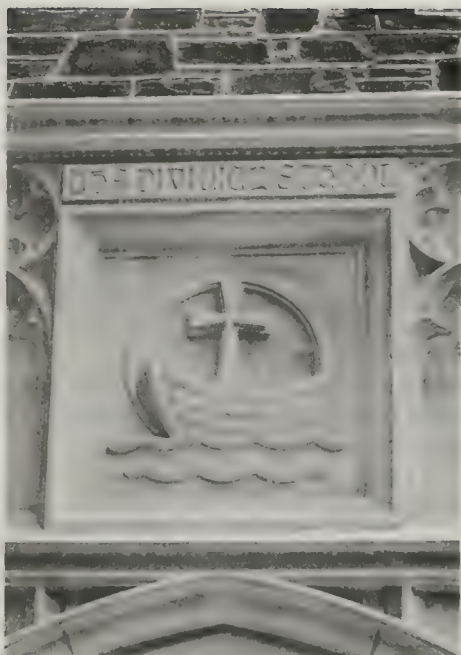
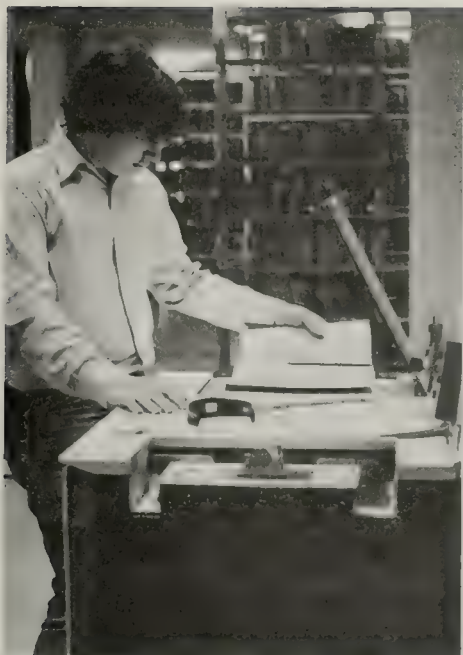
Goals of such scope cannot be neatly programmed in any curriculum, and the degree of achievement (in seminary and beyond) will vary with individuals and their own motives and incentives.

The Basic Curriculum—General Description. Graduation requirements for the Master of Divinity degree consist of satisfactory completion of twenty-four courses, including the eight basic courses or their equivalent, with an overall grade point average of C (2.0) or better, plus satisfactory completion of two units of approved field education with appropriate seminars.

The basic curriculum provides for foundational courses in Biblical, historical, theological, and ministerial studies, representative of the tradition and regarded as indispensable background for subsequent elective work and individual program information. These required courses total eight of the twenty-four courses necessary for graduation. They are Old Testament 11, New Testament 18, Church History 13 and 14, American Christianity 28, Christian Theology 32, Christian Ethics 33, and Black Church Studies 124. The opportunity of advanced standing adds further variability to the academic program, depending upon the nature and quality of the student's undergraduate academic work. Sixteen courses, two-thirds of the required total, are available for working out an individualized program of studies leading to specialized preparation in academic depth and for purposes of professional ministerial competence.

Required courses may be staffed by one or more professors and are planned to treat subject matter both in scope and depth at the graduate level.

The formulation of the student's course of studies is guided by certain broad but normative recommendations for area distribution of courses and by the advice and counsel of appointed faculty advisers or authorized directors.



Students and advisers are directed to read diligently the paragraphs on elective studies and professional aims and distribution of elective studies in the section entitled Administration of the Curriculum.

All academic programs are subject to review and emendation by the Dean and the Associate Dean for Curricular Affairs for the fulfillment of the aims of the curriculum. The declared vocational and professional objective of the student is of central importance both to the student and to the faculty adviser in planning the student's comprehensive study program.

Six semesters of residential study are ordinarily required for the completion of the degree. With permission of the Associate Dean for Curricular Affairs, certified nonresidential study, not exceeding the equivalent of eight courses, may be permitted to a candidate for the basic degree.

The normal academic load is four courses per semester. A student with demonstrated competence may, with the consent of the academic adviser and the Associate Dean for Curricular Affairs, enroll for an additional course in the middler and senior years.

General Features of the Basic Curriculum. The following is a brief summary of the basic curriculum.

1. Twenty-four courses and six or more semesters of residency are required for graduation.
2. Each student is required to complete two approved assignments in field education (with or without remuneration) under supervision. Such assignments might include an internship, a summer of full-time work, two semesters of part-time work, or involvement in church or community service. The essential criteria for graduation credits are that the amount and quality of supervision be approved by the Office of Field Education, and that the student be required to evaluate and correlate the experience directly.
3. A normal academic load is four courses with credit.

Admission to candidacy for the Master of Divinity degree is admission to the regular program of studies. The suggested paradigm defines the normal sequence of the student's developing program. Students enrolled for less than three courses are considered part-time and are not eligible for financial aid or student health services.

The curriculum intends to serve graduate-professional aims with maximum flexibility. Sixteen elective courses are available and may be programmed to satisfy vocational and professional preferences. In planning a course of study, the student, in consultation with the adviser, should choose a program which will give a broad understanding and appreciation of future professional responsibilities. Members of the faculty and staff welcome inquiries.

Professional ministries include those of the parish, preaching, teaching, and pastoral care; ministries of education in local churches and higher education; missions; campus ministry; specialized urban and rural ministries; chaplaincies—hospital, institutional, industrial, and military; teaching; religious journalism; audiovisual communications; church agencies; and ecumenical ministries at home and abroad. For many of these, further specialized training will necessarily be sought elsewhere beyond the basic degree. For all of these ministries the student's program of studies can be shaped for the particular ministry in view.

Students are encouraged to elect at least one course in each of the following areas or subdivisions of the curriculum beyond the required courses: American Christianity; history of religion; Christian education; world Christianity and ecumenics; Biblical exegesis; pastoral psychology; Christian ethics; worship and preaching; care of the parish (including church and community). Such advanced courses should be selected with a view to the individual's vocational and

professional aims and in consultation with the student's faculty adviser. Students are also encouraged to concentrate, usually in not more than five courses in any one subdivision of the curriculum, in an area directly related to their vocational and professional intention. The program of each student is subject to review and revision by action of the faculty adviser, the Committee on Academic Standing, the Associate Dean for Curricular Affairs, or the Dean.

A SUGGESTED CURRICULAR PARADIGM

Junior Year

Fall Semester
Old Testament 11
Church History 13
Elective
Elective

Spring Semester
New Testament 18
Church History 14
Elective
Elective

Middler Year

Fall Semester
Systematic Theology 32
American Christianity 28
Elective
Elective

Spring Semester
Christian Ethics 33
Black Church Studies 124
Elective
Elective

Senior Year

Fall Semester
Four elective courses

Spring Semester
Four elective courses

Student Pastors. Students in candidacy for the Master of Divinity degree who serve as full-time pastors or work more than fifteen hours per week in addition to their academic schedule are advised that their degree programs will usually require a fourth academic year. Modification of this schedule requires the approval of the Associate Dean for Curricular Affairs on recommendation of the Assistant Dean for Field Education.

1. Students with pastoral charges or comparable extracurricular responsibilities ordinarily will enroll for not more than three courses.
2. Students who accept pastoral charges in their middler or senior year are required to have the prior approval of the Assistant Dean for Field Education. Such students will be required to restrict their course work in accordance with regulation 1 above.
3. Modifications of these regulations will be scrupulously administered. Academic achievement, normally a *B* average, must be demonstrated before any modification of these requirements is allowed. Since adequate indication of the student's academic proficiency is not available before the completion of the first academic year, no modification of regulation 1 is possible for junior students.
4. Students who secure minor employment outside the channels of the Office of Field Education are required to inform the Assistant Dean for Field Education. Students carrying an outside employment work load of more than fifteen hours per week will be required to limit their academic load.
5. Ordinarily a student may not commute more than fifty miles (one way). Students living farther away than this will be required to stay in Durham during the academic week.
6. Student assistant pastors (not pastors-in-charge) may enroll for a full academic load if they are not on limited program, if their work is under the

supervision of the Assistant Dean for Field Education, and if their field duties involve no more than fifteen hours per week.

Study Abroad. Study abroad, with transferable credit toward graduation, may be allowed for a candidate for the Master of Divinity degree by approval of the Associate Dean for Curricular Affairs. A strong academic record is a prerequisite. Ordinarily, permission for such study may be granted to students who have completed the work of the middler year. Both the institution abroad and a specific course of study proposed must have the prior approval of the Associate Dean for Curricular Affairs. Required courses and the two field education units must usually be completed at Duke.

Transfer Credits. Transfer of credit to the Divinity School of Duke University, leading to candidacy for the degree of Master of Divinity, will normally be limited to one-third of the academic credits (in proportional evaluation) required for fulfillment of degree candidacy (see the chapter, "Admissions").

Advanced Placement. Students may, on the basis of undergraduate courses, a religion major, or other substantial preparation, be given advanced placement in one or more of the eight required subjects. Such placement normally presumes at least two college courses in a given area (e.g., Old Testament) with a satisfactory grade average.

Students who do not receive advanced placement at matriculation but who believe that they can qualify for upper level work without the introductory course may apply to the Associate Dean for Curricular Affairs. The faculty in the appropriate division (Biblical, historical, or theological) will set procedures for determining basic competence in the particular field, ordinarily by an examination and assigned paper. A student may apply for such testing only once in a single area, not later than the beginning of the fourth semester.

Ordination Requirements. Students preparing for ordination are strongly advised to ascertain early in their seminary program the precise ordination requirements of their denomination.

United Methodist students must fulfill educational requirements in the *Discipline*, by completing the year-long course on Methodist doctrine, history, and polity (CP 159 and 160). Most annual conferences also require one or more courses in preaching and worship and/or clinical pastoral education.

Students from other denominations should consult with their appropriate church bodies for specific requirements, which may include Biblical languages. Polity courses for certain other denominations may be offered from time to time by faculty members or local clergy on prior request.

Time Limit. Ordinarily it is expected that the work for the Master of Divinity degree be completed in three academic years (four for students who are on limited program, who serve as pastors, or who serve internship years). Extension of the student's work beyond six years from initial matriculation requires the approval of the faculty.

The Master of Religious Education Degree

The course of study leading to this degree is designed for persons desiring to prepare for leadership and service in the educational ministry of the church.

Admission. Applications for admission to the Master of Religious Education program are evaluated by the same standards as those applicable to the Master of Divinity degree, and admission requirements and procedures are also the same. Students planning to specialize in Christian education should study the sections of this bulletin which contain statements of policy regarding the most appropriate

prerequisite studies for theological education and the procedures to be followed in applying for admission.

Requirements. The Master of Religious Education degree usually requires two years, or four semesters, of residence and study and the fulfillment of the following requirements:

1. Sixteen courses, twelve of them limited electives and four free electives, selected by the candidate in consultation with the academic adviser.
2. One unit of supervised field education.
3. An overall grade point average of C (2.0) or better in those courses receiving letter grades.
4. A final comprehensive examination.

Program of Study for M.R.E. Degree

Limited electives	12
Four courses in Christian Education	
Two courses in the Biblical Division	
Two courses in the Historical Division	
Two courses in the Theological Division	
Two courses in the Ministerial Division (other than Christian Education)	
Free electives (which may include one cognate course in another department of the University)	4
	16
Final Comprehensive Examination	

The Master of Theology Degree

The course of study leading to the degree of Master of Theology is designed for graduates of accredited theological schools who desire to continue or resume their theological education for enhancement of professional competence in selected areas of study. Enrollment in the Th.M. degree program is open to a limited number of students who have received the M.Div. (or the equivalent) with superior academic records.

Inquiries on admission may be addressed to the Director of Admissions for referral to the Director of the Th.M. Program.

General Requirements. The general requirements for the degree of Master of Theology are:

1. Eight course units of advanced studies, with an average grade of B (3.0 average on a 4.0 scale).
2. Superior performance in a comprehensive examination covering the major area of study. As an alternative to the comprehensive examination the student may elect to do a research project in one major area if approved by the supervising professor. This project shall carry one course credit, to be counted within the eight units required.
3. Residence for one academic year.

There are no general language requirements. However, classical or modern languages may be required for certain programs (for example, in Biblical studies, Hebrew or Greek may be required).

The Program of Study. At least four of the required eight courses must be taken in one of the basic divisions of study (Biblical, historical, theological, or ministerial) which shall be designated as the candidate's major, and at least two courses in another of the divisions which shall be designated as the candidate's

minor. Ordinarily, no more than two units may be taken through directed reading, and no more than one of these in any one semester. In the area of pastoral psychology, up to four course units may be taken through clinical pastoral education.

The comprehensive examination will be given at the close of the course of study for the degree, ordinarily in May or September.

The entire program of studies and comprehensive examination should be completed within twelve months. In some cases, the time limit may be extended, but in no case beyond three years.

The candidate majoring in pastoral psychology may plan one of three programs or concentrations: a concentration in pastoral theology relating psychology and theological understanding to professional ministry, especially the parish, through course work and supervised clinical experience; a concentration in pastoral care through course work and an intern year in basic clinical pastoral education; a concentration in pastoral counseling through course work and a year of advanced clinical pastoral education. In the context of clinical pastoral education various professional goals may be sought, including general understanding and skills in pastoral care and specialization in pastoral counseling and clinical supervision. The Clinical Pastoral Education Program is certified by the Association for Clinical Pastoral Education. Persons specializing in pastoral counseling will be moved toward certification with the American Association of Pastoral Counselors. Course PP 277A (or its equivalent) is considered a prerequisite for a major in pastoral psychology, but is not applicable toward the eight courses required for the degree, although it will be indicated on the student's transcript. Accordingly, the student majoring in this area should ordinarily make provision for a program extending for a full calendar year beginning the first week in June.

Financial Aid. Please note in the pertinent sections of the chapter on Financial Information that the charges for tuition and general fee for the Th.M. degree are combined and are made on the basis of the number of courses taken, and that in order to be eligible for medical care a student must be taking at least three courses.

Special Programs

Duke Divinity School is a participant in the National Capital Semester for Seminarians conducted by Wesley Theological Seminary in Washington, D.C. Students may, with the approval of the Associate Dean for Curricular Affairs, enroll in this one semester program focussed on political issues and social ethics, and receive up to four transfer credits. Applicants must have completed at least two and not more than four semesters at Duke to be eligible.

International Study Programs

For several years the Divinity School has been developing programs of international study and exchange involving faculty and students. The main areas in which the development is centered at this time are the following:

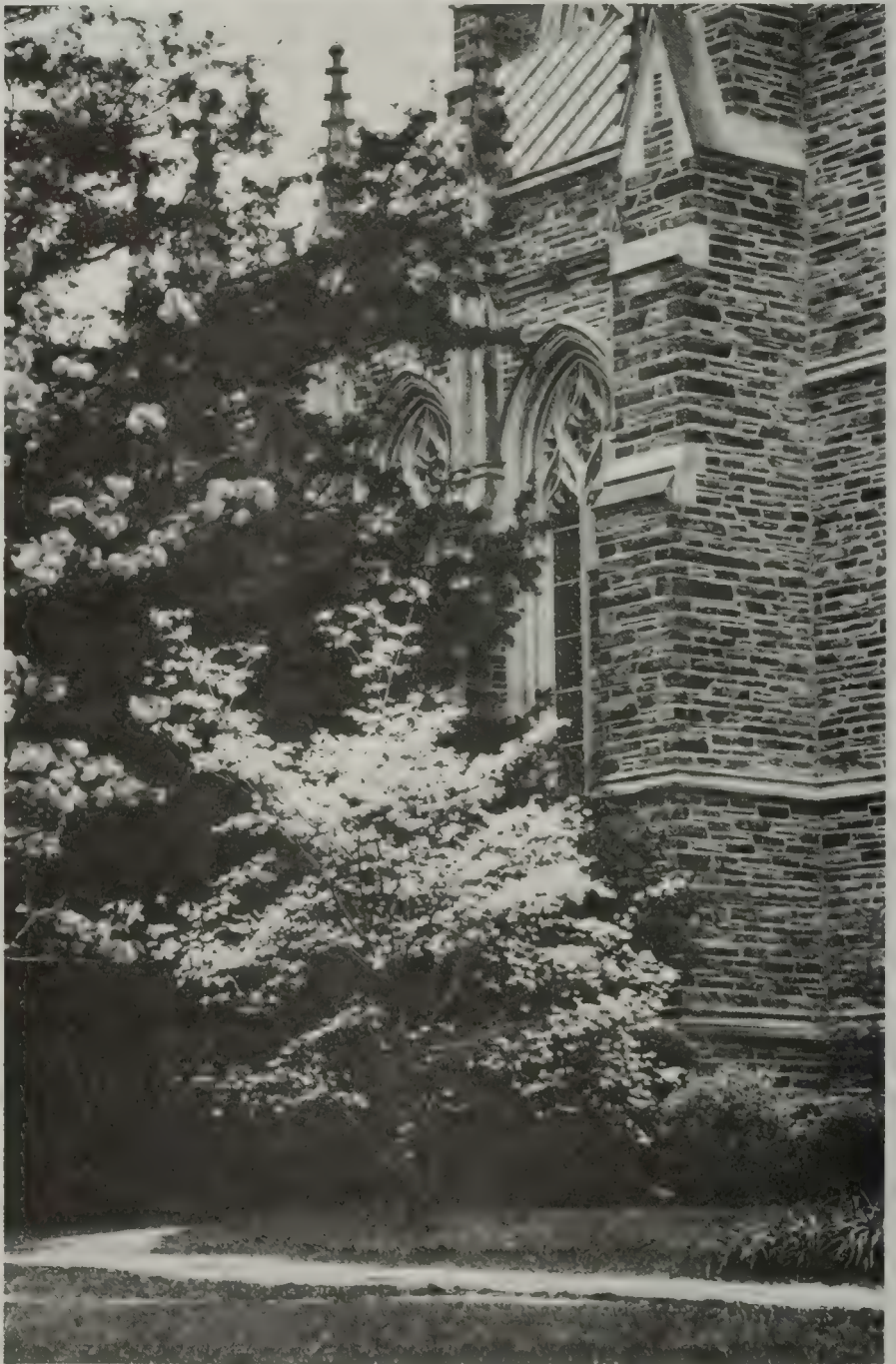
Mexico Seminar. Brief intensive travel-study to foster appreciation of Mexico, its people, history, culture, and religion—with special attention to the faith and mission of the church in Latin America today. Direct encounter with Third World poverty. About twelve persons per seminar. Twice annually.

China Seminar. A travel-study seminar on the re-emergence of the Church in China focusing on the unprecedented response to the Church in a Marxist society. Participants have the opportunity also to learn about China and its people and see firsthand the changes taking place in this remarkable country. Biannually.

Robert E. Cushman Exchange Fellowship. Each year faculty and staff nominate a student to represent the Divinity School in the Bonn/Duke Exchange program. At Bonn University (West Germany) the student for a year becomes thoroughly acquainted with another culture and different church life. Full participation in classes at Bonn required. Language preparation necessary.

Dumfries, Scotland. In cooperation with St. Michael's Parish, Dumfries, Scotland, the Divinity School offers an academic year's experience. A modest stipend provides basic support and trans-Atlantic air fare. This opportunity is open each year to one rising senior who serves as a full-time parish assistant for this parish of the Church of Scotland.

Courses of Instruction



Course Enrollment

The required courses of the curriculum are: Old Testament 11, New Testament 18, Church History 13 and 14, American Christianity 28, Christian Theology 32, Christian Ethics 33, and Black Church Studies 124. Other courses numbered through 199 are elective courses for Divinity School students only. Most courses numbered 200 and above are approved for credit by both the Divinity School and the Graduate School, and require the permission of the instructor. For other prerequisites the student should consult the roster of courses of instruction in this bulletin and should also refer to published registration advices at the time of registration for each semester.

Courses jointly approved by the Divinity School and the Graduate School of Duke University are published in the *Bulletin of the Divinity School*. Courses offered in the Department of Religion of Duke University, or as cognate courses in other departments, must be of graduate level (numbered 200 or above) in order to fulfill requirements for degrees in the Divinity School.

Projected Course Offerings

The following list of proposed course offerings for the 1982-83 academic year is tentative and subject to change. Detailed listings are available at the time of preregistration in the middle of the preceding semester, and more distant plans may be ascertained by consulting the divisional representative or the instructors concerned.

Fall Semester 1982

Old Testament (OT) 11, 115, 209, 351
New Testament (NT) 103, 105, 116C, 117C, 118, 226D, 226E, 341
Church History (CH) 13, 126
Historical Theology (HT) 246, 308, 337
American Christianity (AC) 28, 127, 384, 395
Christian Theology (CT) 32, 229, 112, 220, 226, 326, 352
Christian Ethics (CHE) 112, 294, 389
Black Church Studies (BCS) 100
World Christianity (WC) 137, 156
Care of the Parish (CP) 128, 142, 147, 151, 152, 155C, 159
Christian Education (CED) 101, 105, 192, 231
Church Worship (CW) 166, 178
Pastoral Psychology (PP) 70, 164, 170, 176B, 176D, 177, 271, 277B, 278, 281A
Preaching (PR) 30, 162, 186

Spring Semester 1983

Old Testament (OT): 106D, 116, 223C, 223D, 353
New Testament (NT): 18, 104, 116D, 117A, 180, 227B, 312, 341
Church History (CH): 14, 105, 202, 236
Historical Theology (HT): 219, 261
American Christianity (AC): 385, 396
Christian Theology (CT): 108, 110, 137, 200, 210, 215, 216, 220, 320
Christian Ethics (CHE): 33, 136, 290
Black Church Studies (BCS): 100, 124
World Christianity (WC): 386
Care of the Parish (CP): 129, 130, 158, 160
Christian Education (CED): 101, 175, 220
Pastoral Psychology (PP): 170, 173, 175, 178, 273, 275, 277C, 281B
Preaching (PR): 30, 180

I. Biblical Studies

OLD TESTAMENT

11. Introduction to Old Testament Interpretation. An introduction to the literature, history, and religion of ancient Israel with emphasis upon exegetical methodology. *Bailey and Murphy*

101. The Prophetic Movement. A study of the prophetic movement in Israel from the earliest period to the postexilic development of apocalyptic with special reference to the content and religious teaching of the prophetic writings. *Efird*

106. Exegesis of the English Old Testament. Prerequisite: OT 11 or equivalent.

106A. Genesis. *Bailey*

106B. Amos and Hosea. *Bailey*

106D. Wisdom Literature in the Old Testament. *Murphy*

106E. Old Testament Psalms. Exegesis of various literary types; theological orientation of Old Testament liturgical prayer; implications for prayer and liturgy today. *Murphy*

109. The Religion of the Old Testament. A study of the religious ideas contained in the Old Testament with special reference to their interpretation from Robertson Smith to the present. *Efird*

115–116. Introduction to Biblical Hebrew. Elements of phonology, morphology, and syntax. Exercises in reading and writing Hebrew. Exegetical treatment of the book of Jonah. (Two semesters: no credit will be given for 115 without completion of 116.) *Bailey*

130. Dying and Death. Critical consideration of Biblical, legal, medical, and ethical perspectives. Prerequisites: OT 11, NT 18, or equivalents. *Bailey, H. Smith, and others*

180. From Text to Sermon. (See PR 180.) *Staff*

207. Intermediate Biblical Hebrew I. Historical Hebrew grammar with reading and exegesis of Old Testament prose (Pentateuch and historical books in alternate years). *Wintermute*

208. Intermediate Biblical Hebrew II. Historical Hebrew grammar and rapid reading of prose and poetry. *Meyers*

209. Old Testament Theology. Studies of the Old Testament in regard to theological themes and content. Prerequisite: OT 11 or equivalent. *Murphy*

220. Rabbinic Hebrew. An interpretive study of late Hebrew, with reading from the Mishnah. *Staff*

223. Exegesis of the Hebrew Old Testament. Prerequisite: OT 115–116.

223A. Amos and Hosea. Stress on hermeneutical method. *Bailey*

223B. Job. *Murphy*

223C. I Samuel. *Bailey*

223D. Song of Songs. *Murphy*

223E. Ecclesiastes. *Murphy*

237. History of the Ancient Near East. Emphasis upon the religions, literature, and art of Mesopotamia. *Bailey*

242. Life after Death in Semitic Thought. Consideration of the various ideas from the early second millennium through the Intertestamental Period. Exegesis of selected Old Testament passages. Evaluation of recent research. Prerequisite: OT 11 or equivalent, knowledge of Hebrew helpful but not required. *Bailey*

302. Studies in the Intertestamental Literature. Selected documents of the Apocrypha and Pseudepigrapha examined exegetically and theologically in their relation to postexilic Judaism. *Staff*

304. Aramaic. A study of the Aramaic portions of the Old Testament and selected passages from the Elephantine and Qumran texts. *Wintermute*

350, 351. Seminar in Old Testament. Research and discussion on selected problems in the Old Testament and related fields. *Murphy*

353. Seminar on Text Criticism. Emphasis upon transmission, versions, apparatus, and method. Prerequisites: NT 103–104 and OT 115–116 or equivalents. *Bailey and others*

373–374. Elementary Akkadian. Study of the elements of Akkadian grammar. Reading of neo-Assyrian texts shedding light on the Old Testament. Prerequisite: Biblical Hebrew. (Two semesters: not credited separately.) *Bailey*

375–376. Elementary Ugaritic. Study of the elements of Ugaritic. Prerequisite: Biblical Hebrew. (Two semesters: not credited separately.) *Staff*

NEW TESTAMENT

18. Introduction to New Testament Interpretation. An introduction to the literature of the New Testament with special attention to the perspectives and methods of historical-critical investigation and interpretation. *Efird* or *M. Smith*

103–104. Hellenistic Greek. Designed for beginners to enable them to read the Greek New Testament. (Two semesters: no credit will be given for 103 without completion of 104; however, students with at least one full year of college Greek may be permitted to enroll in 104.) *Efird*

105. Studies in Paul. An investigation of Paul's apostolate based upon the Acts and the Epistles with attention to Paul's theology as reflected in selected passages. *Efird*

114. Jesus in the Gospels. A consideration of the origins, transmissions, and literary fixation of the Jesus traditions with special attention to the message of the Kingdom, the problem of messianic self-consciousness, and the passion. *M. Smith*

116. Exegesis of the English New Testament I. *Staff*

116A. Luke-Acts

116B. Galatians

116C. Selected Later Epistles

116D. I and II Corinthians

117. Exegesis of the English New Testament II. *Staff*

117A. The Gospel and Epistles of John

- 117B. Romans
 117C. Revelation
 117D. Mark
118. **The New Testament in Greek.** Readings in the Gospels. *Staff*
119. **The New Testament in Greek.** Readings in the Epistles. *Staff*
180. **From Text to Sermon.** (See PR 180.) *Staff*
225. **Living Issues in New Testament Theology.** Critical examination of major problems and issues in New Testament interpretation and theology. Prerequisite: NT 18 or equivalent. *M. Smith*
226. **Exegesis of the Greek New Testament I.** Prerequisite: NT 103-104.
Price, M. Smith, or Young
 226A. Mark and Matthew
 226B. Romans
 226D. I and II Corinthians
 226E. The Gospel and Epistles of John
227. **Exegesis of the Greek New Testament II.** Prerequisite: NT 103-104.
Price, M. Smith, or Young
 227A. Luke-Acts
 227B. Galatians
 227C. The Pastoral Epistles
311. **Pharisaic Judaism in the First Century.** A reading course in first-century Pharisaic Judaism. *Staff*
312. **Pauline Theology.** Studies in some aspects of Paulinism in the light of recent scholarship. *Staff*
314. **Judaism and Christianity in the New Testament.** A study of their interaction with special attention to Paul. *Staff*
319. **The Gospel According to St. Matthew in Recent Research.** *Staff*
- 340, 341. **Seminar in the New Testament.** Research and discussion on a selected problem in the Biblical field. *Price and M. Smith*
345. **The Epistle to the Hebrews in Recent Research.** *Staff*

II. Historical Studies

CHURCH HISTORY

13. **History of the Church to the Protestant Reformation.** A survey through the fifteenth century in terms of spiritual genius, organizational development, great literature, and representative movements. *Gregg*
14. **History of Modern European Christianity.** A survey of the main currents in Reformation and post-Reformation church history. *Steinmetz*
105. **Studies in Patristic Christianity.** Selected issues in the worship, theology, and politics of the early Church. *Gregg*
126. **The English Reformation.** The religious history of England from the accession of Henry VIII to the death of Elizabeth I. Extensive readings in the English reformers from Tyndale to Hooker. *Steinmetz*
140. **The Rise of Methodism and the Anglican Background.** The Methodist societies within the Church of England to the death of Wesley. Prerequisite: CH 13-14. *Staff*

201. Schism and Heresy in Early Christianity. Studies of crises precipitated by movements such as Gnosticism, Donatism, Arianism, and Pelagianism. *Gregg*

202. Religion of the Cappadocian Fathers. Examination of the careers and writings of Basil, Gregory of Nyssa, and Gregory of Nazianzus. *Gregg*

206. Christian Mysticism in the Middle Ages. Source studies in historical perspective of such late medieval mystics as Bernard of Clairvaux, the Victorines, Ramon Lull, Meister Eckhart, Richard Rolle, Catherine of Siena, and Nicholas of Cusa. Prerequisite: CH 13. *Steinmetz*

236. Luther and the Reformation in Germany. The theology of Martin Luther in the context of competing visions of reform. *Steinmetz*

247-A, B. Readings in Latin Theological Literature. Critical translation and study of important theological texts in Latin from various periods of the history of the church. Prerequisite: reading knowledge of Latin (introductory course offered in the classics department). *Staff*

334. Theology and Reform in the Later Middle Ages. Examination of selected issues in the life and thought of the medieval church from the twelfth century through the fifteenth century. Readings in popular and academic theologians from Pierre Abelard to Gabriel Biel. *Steinmetz*

335. The English Church in the Eighteenth Century. Studies of Christianity in England from the Act of Toleration, 1689, to the death of John Wesley, 1791. *Staff*

344. Zwingli and the Origins of Reformed Theology. Source studies in the early Reformed tradition. *Steinmetz*

HISTORICAL THEOLOGY

114. Christologies of the Early Church. Investigation of important soteriologies and debates centering upon the person of Christ from the second through the fifth centuries. *Gregg*

123. Readings in Historical Theology. Prerequisite: CH 13-14. *Staff*

201. Christian Thought in the Middle Ages. A survey of the history of Christian theology from St. Augustine to the young Martin Luther. *Steinmetz*

204. Origen. The systematic and apologetic writings of an important Alexandrian thinker and exegete of the third century. *Gregg*

219. Augustine. The religion of the Bishop of Hippo in the setting of late antiquity. *Gregg*

241. Problems in Reformation Theology. Prerequisite: permission of the instructor. *Steinmetz*

246. Problems in Historical Theology. Prerequisite: permission of the instructor. *Staff*

260. Life and Thought of the Wesleys. A seminar on John and Charles Wesley and their colleagues in relation to English culture and religion in the eighteenth century. Prerequisite: permission of the instructor. *Staff*

261. The Theology of John Wesley. A study of the development and structure of Wesley's theology with special reference to his doctrines of man and salvation. *Richey*

308. Greek Patristic Texts. Critical translation and study of selected Greek texts illustrative of significant aspects of patristic theology and history from the second through the fifth century A.D. *Young*

313. The Apostolic Fathers. A study of the religious thought in the writings of the Apostolic Fathers. *Young*

317. Seminar in the Greek Apologists. A study of the apologetic writings of the Greek Fathers in relation to the challenges of their contemporary world. Special attention will be given to leading protagonists of late Graeco-Roman culture, such as Celsus, Porphyry, and Julian. *Young*

318. Seminar in the Greek Fathers. A study of selected topics from the Greek Fathers. *Young or Gregg*

337. Theology of St. Thomas Aquinas. Intensive reading in the *Summa Theologica* and Biblical commentaries. *Steinmetz*

338. Calvin and the Reformed Tradition. The theological development of John Calvin. A comprehensive examination of his mature position with constant reference to the theology of the other reformers. *Steinmetz*

AMERICAN CHRISTIANITY

28. History of American Christianity. A consideration of the nature of Christianity in America and the history of its development. *Henry and Newsome*

127. Modern American Religious Leaders. Recent American Christianity as seen through selected biographical studies. *Newsome*

199. The American Social Gospel. A study of Protestant social thought and action in America since 1865. *Newsome*

296. Religion on the American Frontier. A study of the spread of evangelical Christianity as a theological and cultural phenomenon of the American West. *Henry*

377. Contemporary American Theater and Evolving Theological Forms. An examination of creed and ritual implicit and explicit in contemporary American theater of stage, film, and television. *Henry*

384. Religious Dissent in American Culture. History and significance of dissent in the theology and culture of America. *Henry*

385. Religion in American Literature. A critical study of the meaning and value of religious motifs reflected in American literature. *Henry*

395. Christian Thought in Colonial America. Exposition of the main currents in Protestant theology. *Henry*

396. Liberal Traditions in American Theology. A study of the main types of modern religious thought, beginning with the theology of the Enlightenment. *Henry*

397. Contemporary American Theology. A critical appraisal of major tendencies. *Henry*

HISTORY OF RELIGIONS

180. Introduction to Asian Religions. Preliminary consideration of problems and methods in the study of religious traditions, followed by a survey of the historical development, beliefs, practices, and contemporary significance of the Islamic religion and the religions of India, China, and Japan. *Staff (Department of Religion)*

See other courses offered in the Department of Religion.

III. Theological Studies

CHRISTIAN THEOLOGY

32. Christian Theology. The major themes of the theology of the Church. *Herzog, Langford, and Robinson*

101. Types of Religious Philosophy. Basic historical orientation of religious thought, especially in Western culture. *Robinson*

102. Science and Biblical Theism. Implications of scientific knowledge in relation to Biblical understandings of creation, revelation, and providence. *Robinson*

108. Major Types of Protestant Theology. A survey of Protestant theology from the reformers to Karl Barth. (For juniors only.) *Herzog or Langford*

110. This Life and the Age to Come. Christian eschatology and the meaning of history in the light of God's triumph over sin, suffering, and death. *Robinson*

111. A Christian Faith-Understanding of God. A systematic examination of Biblical and philosophical concepts of God in relation to the life of Christian faith. *Robinson*

112. The Doctrine of the Holy Spirit. An examination of pneumatology under systematic categories which include: creation, Old Testament, prophecy, the life and ministry of Christ, the Church, salvation, the canon, the sacraments, and eschatology. *Turner*

134. Theology of Pentecostalism. An exploration of this tradition with examination of its distinctive emphases and interpretations of Christian faith. *Turner*

200. The Person and Work of Christ. The problem of knowledge of Christ and formulation of a doctrine of his work and person in the light of Biblical eschatology. *Staff*

210. Contemporary British Theology. Selected problems in representative British theological writings after 1900. *Langford*

211. Authority in Theology. The idea and function of authority in theology. *Langford*

212. The Doctrine of the Holy Spirit. A study of the person and work of the Holy Spirit. *Langford*

215. The Nature and Mission of the Church. Christian understandings of the Church—Biblical, historical, contemporary—with a view toward ecumenical doctrinal construction. *Herzog*

216. Kierkegaard Studies. Critical examination of selected works. *Robinson*

220. Theological Explorations. A seminar on contemporary theological issues, content to be designated by the theological division. *Staff*

225. The Christian Understanding of Human Nature and Destiny. Representative historical and recent theological interpretations of human nature, predicament, deliverance, and possibility. *Richey*

226. Theology and Contemporary Secular Understandings of Man. Critical theological examination of selected current interpretations of human nature and the human situation. *Richey*

229. Tragedy and Christian Faith. An analytical and constructive philosophical interpretation of the fundamental tragic dimension of human life in the light of a Christian theological understanding. *Robinson*

272. Theology of Paul Tillich. An examination of Tillich's philosophical theology. *Robinson*

300. Systematic Theology. Method and structure of systematic theology, the doctrine of God, theological anthropology, and Christology. Prerequisite: CT 32 or equivalent. *Herzog or Langford*

303. Philosophical Method in Religious Studies. European hermeneutic (Gadamer) and American process philosophy (Whitehead and Hartshorne) as applied to Christian theology. *Herzog*

320. Theology, Power, and Justice. Critical examination of a major theme of modern thought in Schleiermacher, Hegel, Marx, and Tillich. *Herzog*

322. Nineteenth-Century European Theology. Protestant theology from Kant to Herrmann. *Herzog*

325. Philosophical Theology I. Selected readings from Plato and Aristotle which helped to shape philosophical theology from Origen through Augustine and Aquinas. *Herzog*

326. Philosophical Theology II. Main problems of philosophical theology in the modern period.

328. Twentieth-Century European Theology. Critical examination of the thought of selected Protestant theologians from 1900 to 1950. Prerequisite: CT 32. *Herzog*

352. Seminar in Christian Theology. Research and discussion of a selected problem in the systematic field. *Staff*

CHRISTIAN ETHICS

33. Christian Ethics. Theological assumptions, ethical principles, and their application to contemporary issues of Christian social policy. *Beach, Lacy, and H. Smith*

107. The Biblical Bases of Christian Ethics. Examination of major themes and moral teachings, principally in the Decalogue, the Gospels, and the Epistles, with application to some contemporary issues. Prerequisite: OT 11, NT 18, or equivalent. *H. Smith*

112. Technology and Christian Ethics. The impact of the technological revolution upon American culture, and a normative Christian response. *Beach*

113. Contemporary Issues in Christian Morals. Constructive examination of selected areas of public and private morality. *Staff*

130. Dying and Death. Critical consideration of Biblical, legal, medical, and ethical perspectives. Prerequisites: OT 11, NT 18, or equivalents. *Bailey, H. Smith, and others*

136. Perspectives on Food and Hunger. An interdisciplinary symposium on national and world hunger and malnutrition, including (whenever possible) student involvement in local hunger-related agencies. *Lacy and others*

194. The Protestant Church and American Culture. Analysis from the perspective of Christian ethics of current problems in the interpretation of church and culture with explicit reference to the parish setting. *H. Smith*

220. Ethical Explorations. A seminar on contemporary ethical issues, the specific content in any given semester to be designated by the Theological Division. *Staff*

230. Moral and Value Education. A critical, theological investigation of Durkheim, Dewey, Simon, Kohlberg, Bull, Rokeach, and implications for educa-

tion in church and society. Prerequisites: CHE 33 and CED 105. *H. Smith and Westerhoff*

242. Human Sexuality. Examination of biological, Biblical, cultural, and other aspects of human sexuality, together with analytical and constructive interpretation. Permission of instructor required. *H. Smith*

244. Interdisciplinary Seminar in Medical-Legal-Ethical Issues. A seminar composed of students and faculty from the Medical, Law, and Divinity Schools for critical consideration of selected pertinent issues of mutual professional interest. Prerequisite: permission of instructor. *H. Smith and others*

245. Ethics in World Religions. Moral foundations, assumptions, and applications in such historic faiths as Hinduism, Buddhism, Confucianism, and Islam, in the light of Christian ethical perspectives. *Lacy*

262. Marxist Ideology and Christian Faith. Comparative examination of Communist and Christian doctrines such as man, society, sin, history, and eschatology, together with an introduction to the contemporary dialogue. *Lacy*

290. Current Problems in Christian Social Ethics. A critical study of secularization, the technological revolution, and the ecological crisis. *Beach*

291. Historical Forms of Protestant Ethics. A survey of major types of Protestant ethical theory from Luther through contemporary figures. *Beach*

294. Christianity and the State. "Civil religion" in its historic development and contemporary expressions in America. Christian ethical premises of democratic political theory and practice. The relationships of church and state. *Beach*

383. Moral Theology in the Twentieth Century. Critical and comparative examination of ethical theory as exhibited in the work of selected contemporary theologians. *H. Smith*

387. Ethical Method. Selected methodological issues in contemporary theological ethics. *H. Smith*

388. Ethics and Health Care. A critical study of selected aspects of modern biomedical technology with special reference to the ethical assumptions informing their development and practice. *H. Smith*

389. Christian Ethics and Contemporary Culture. A study of the interaction between Christian thought and current secular social theory. *Beach*

BLACK CHURCH STUDIES

100. Introduction to Black Theology. An examination of the historical roots of black theology with special attention to the treatments of traditional themes and problems in theology by black theologians and their rationale for the black theological enterprise. *Turner*

124. The Black Church in America. A consideration of the historical and theological development of the separate black Christian denominations in America with attention to some of the major leaders, black worship, and black preaching. *Turner*

126. Black Religion and Social Conflicts in America. An examination of some of the reactions of black religious groups to the limits placed upon black people in American life, efforts made to break down racial barriers in society, and attempts to institutionalize black responses to such barriers. *Turner*

WORLD CHRISTIANITY AND ECUMENICS

24. The Christian World Mission. A study of theological foundations, guiding principles, and contemporary problems of the world Christian community. *Lacy*

133. The Expansion of Christianity. A survey of the spread of Christianity and the growth of the worldwide Church with special emphasis on nineteenth- and twentieth-century Protestantism in the non-Western world. *Lacy*

135. Contemporary Issues in the World Church. Analysis of political social, cultural, and religious conditions in a selected area of the world, and of theological-ethical insights and perspectives within the indigenous Christian community. *Lacy*

137. Third World Theology. An examination of selected theological writings from Asia, Africa, and Latin America, comparing their perspectives and their unique contributions with the contemporary Christian thought. *Lacy*

156. The Ecumenical Movement. Its contemporary development, structures, activities, and problems, against the background of Church unity and disunity. *Lacy*

386. Christianity in Dialogue with Other Faiths. Contemporary currents of Christian thought as they relate to resurgent non-Christian religions and involve new formulations of a theology of mission. *Lacy*

IV. Ministerial Studies

THE CARE OF THE PARISH

128. Ministerial Leadership and Participative Skills. A study of the pastor's role as participant-facilitator with attention to organizational theory and facilitative skills employing the group workshop method of learning. *Ingram*

129. The Pastor as Consultant to Church Organizations. A consideration of the pastor's role as organizational consultant with special emphasis on data gathering, diagnosis, and intervention using experiential learning designs. *Ingram*

130. Planning and Directing the Church's Program. Principles of planning, organizing, staffing, directing, and evaluating the program of the local church. *Ingram*

142. Women and Ministry. Theological and practical issues related to women and ministry. *Staff*

147. The Pastoral Responsibility for Administration. A consideration of the major responsibilities of the pastor in the administration of the local church. *Ingram*

148. Christian Stewardship and Church Finance. A seminar to consider the principles of stewardship, education, budget-making, enlistment in church support and church financial management in theological perspective. *Ingram*

150. Church and Community. The structure and dynamic factors shaping the present-day community together with their import for the work of the church. *Wilson*

151. The Town and Country Church. The small church, the circuit church, circuit administration, larger parish and group ministry, and the town and country movement. *Wilson*

152. Evangelism As a Pastoral Concern. A study of the nature, purposes, and methods of contemporary Christian evangelism with special attention to the local church. *Ingram*

154. The Urban Church. The function, nature, program, and administration of the effective city church and of the urban minister's distinctive task. *Wilson*

155. Church Polity.

155B. The Baptist Churches

155C. The United Church of Christ

155D. The Presbyterian Churches

157. The Church and Social Change. A sociological study of the relationship of the Church to the process of social change, including the role of the Church as innovator, the Church as participant in social movements, method(s) of accomplishing change, and the religious leader as an agent of social change. *Wilson*

158. Contemporary Religious Sects. The nature, ideology, development, clientele, and role of contemporary religious sects; the process by which such sects develop into established organizations; and their relationship to the mainline churches. *Wilson*

159. Early Methodism: History, Theology, and Polity. A study of the character and development of Methodism, beginning with John Wesley and tracing important features of this tradition through the nineteenth century. *Langford, Richey, and Wilson*

160. Twentieth-Century Methodism: History, Theology, and Polity. The development of the United Methodist Church, focusing on theological diversity and patterns of organizational life, with major concentration on the polity of this church as provided by the current *Discipline*. *Langford, Richey, and Wilson*

179. Church Research. Methods of research and survey for the gathering, analysis, and interpretation of church and community data, together with preparation and use of denominational statistics. *Wilson*

189. The Multiple Staff Ministry. Group work, leadership, and organizational theories as applied to staff ministries in large church and cooperative parish settings. *Ingram*

220. Seminar in Contemporary Ministries. A seminar in patterns and issues of contemporary ministries, content to be designated by the Ministerial Division. *Staff*

CHRISTIAN EDUCATION

101. Faith and Nurture. Foundations in theology and educational theory for the teaching ministry of the Christian community. *Richey*

105. Education as a Pastoral Ministry. The nature of religious communities and the means by which they evolve, sustain, and transmit faith, values, and ways of life, with implications for evaluating, planning, and designing educational experiences within the total life of a congregation. *Westerhoff*

167. Adult Education and the Ministry of the Laity. A study of adult education and the ministry and mission of the laity in Church and world and the ministry of teaching in the lay renewal of the Church. *Richey*

169. Major Issues in Christian Education. Critical examination of selected issues in Christian education. *Richey*

175. Liturgy and Education. The nature and role of rites and rituals; learning, prayer, and the spiritual life; and education for baptism, confirmation, and the eucharist. *Westerhoff and Willimon*

185. Religious Education and the Arts. The place and the effect of imagination in religion and education, and the use of the arts in religious education. *Westerhoff*

190. Pastor as Teacher. An applied course in the teaching-learning process and models, strategies and methods for planning and designing education in the parish. *Westerhoff*

192. Ethnicity and the Church's Mission and Ministry. Applying the insights of cultural anthropology to evangelization and nurture. *Westerhoff*

193. Living Faiths and Christian Education. An exploration of Christian education in the light of the faiths of other persons with special attention to Judaism. *Westerhoff*

218. Research Seminar in Religion and Education. Various research techniques applied to issues in religion and education. Prerequisite: permission of instructor. *Westerhoff*

220. Colloquium in Religious Education. *Staff*

230. Moral and Value Education. A critical, theological investigation of Durkheim, Dewey, Simon, Kohlberg, Bull, Rokeach, and implications for education in church and society. Prerequisites: CHE 33 and CED 105. *H. Smith and Westerhoff*

231. Pastor as Spiritual Guide. An introduction to spirituality and spiritual formation as aspects of the Church's educational ministry. *Westerhoff*

PASTORAL PSYCHOLOGY

70. Group Process and Personal Identity. A small group experience to enhance personal growth and explore personal identity and interpersonal styles of relating. *Staff*

164. Pastoral Counseling in a Parish Setting. Group supervision of pastoral counseling in a local parish setting. Verbatim materials from counseling sessions will be utilized. Prerequisite: permission of instructor. *Mickey*

170. Pastoral Conversation. A consideration of the nature of the pastor's conversation with people in the total caring ministry grounded in the person-centered understanding of personality processes and human relationship, using textual and conversational materials. *Goodling*

171. Pastoral Counseling. Consideration of the structures and processes of pastoral counseling; pastoral evaluation, referral, intake contract, goals, transference, termination, and other special problems. Prerequisite: permission of instructor. *Goodling*

172. Pastoral Care in Marriage and Family Life. Pastoral care in marriage and family life with special emphasis on premarital guidance within the context of the local church's program of family life education. *Goodling*

173. Psychotherapy and Sanctification. An analysis of structuring and growth processes in psychotherapy in the light of a Christian understanding of sanctification. *Mickey*

174. Theology and Personality Processes. Theological and religious interpretations of basic human experiences; psychodynamic meanings of theological relationships, religious practices, and personality development. *Mickey*

175. Pastoral Care Ministries in Critical Human Situations. A seminar utilizing lectures by visiting professionals, case materials, resource films, and readings, to inform ministers on the causal factors, behavioral patterns, preventive and treatment programs, and the role of the church and minister in such problems as alcoholism, drug addiction, dying and death, juvenile offenses, marital crisis, suicide, mental retardation, sexual deviation, psychiatric disorders. *Goodling*

175A. Special Practicum Projects. For advanced students who want additional clinical experience under supervision in a pastoral care setting (inner-city; alcoholic rehabilitation; counseling; etc.). *Staff*

176. Pastoral Care and Persons in Institutions.

176B. Lectures by staff and ward visits at the Murdoch Center for the Mentally Retarded and the facilities in the Butner, North Carolina, complex (state hospital, alcoholic rehabilitation, training school). *Staff*

176C. Lectures by staff and ward visits at the Central Prison in Raleigh and related correctional facilities. *Staff*

176D. The Church's ministry to the elderly and homebound explored through lectures, case conferences, and visits to the elderly and homebound parishioners of local Durham churches. *Goodling*

177. Pastoral Care in the General Hospital Setting. An examination, through intensive individual and group supervision, of the student's pastoral ministry to the ill, the dying, and the bereaved in the general hospital setting. (Not recommended for those planning to take PP 277.) *Staff*

178. Power and Restraint in the Parish. A theological analysis of psychopolitical dynamics of the local church. Verbatim materials from the student's church work will be utilized in the course. *Mickey*

180. Women and Pastoral Psychology. A seminar utilizing lecture-discussions by visiting professionals, case materials, and shared research dealing with feminine psychology, the relationship of culture to counseling, and the dynamics of sexuality in counseling. *Mickey*

271. Marriage and Family. The psychodynamics of marital conflict and family problems; principles and procedures in marriage and family counseling. (For seniors and Th.M. candidates.) *Staff*

273. Seminar in Pastoral Theology: Theological Dimensions of Pastoral Counseling. An investigation of the problems in relating materials from theology and the social sciences as they are found in pastoral theology. *Mickey*

275. Individual Study in Pastoral Psychology. Selected readings in major issues in pastoral psychology issuing in a research or honors paper. *Staff*

277-A,B,C. Basic Clinical Pastoral Education. Units of Basic CPE offered in the summer, fall, and spring in programs accredited by ACPE. (Two course units each, maximum credit.) *Staff*

278. Psychological Theories of Personality. A systematic presentation of leading personality theories, with reference to developmental processes (motivation, cognition, learning, etc.) and their implications for Christian ministry. *Mickey*

281-A,B,C. Advanced Clinical Pastoral Education in Pastoral Care and Counseling. Pastoral care with inpatients and pastoral counseling of individuals, couples, families, and groups in a pastoral counseling center. (Two course units each.) *Staff*

PREACHING

30. Theology and Practice of Preaching. The development of a theology of preaching and methods of sermon construction, including preaching in class, critique, private conference, and local church evaluation. Prerequisite: OT 11 or NT 18 or permission of instructor. *Lischer*

161. Preaching and the Church Year. Preaching the lectionary texts in the context of the church's worship and calendar. The appropriate cycle of the COCU lectionary will be followed. *Lischer*

162. The Rhetoric of Preaching. Literary forms in Biblical and non-Biblical literature as components of and models for preaching. Metaphor, poem, parable,

story, and dialogue in oral-aural communication. Prerequisite: OT 11 or NT 18. *Lischer*

163. Theologies of Preaching. A survey of significant theories of preaching from Augustine to the present, including analysis of the theological and rhetorical components of the sermon as they are described in representative treatises on preaching. Prerequisite: PR 30 or permission of instructor. *Lischer*

165. Preaching as Public Address. A workshop on preaching and worship leadership organized around the principles of speech and effective communication. Extensive use of audio-visual recordings and private conferences. Prerequisite: PR 30 or permission of instructor. *Lischer*

180. From Text to Sermon. Preaching from Biblical sources. Emphasis upon the goal and methodology of exegesis, the hermeneutic problem, and verbal communication in the present. Prerequisite: OT 11 and NT 18. *Staff*

181. Advanced Sermon Analysis Seminar. A critical study, on the basis of selected sermons and student presentations, of principal and practical problems facing the contemporary preacher. *Bergland and others*

182. Advanced Preaching: Practice and Evaluation. An advanced laboratory course for extra competence in the preparation, delivery, and evaluation of sermons. Prerequisite: PR 30 and permission of instructor. *Bergland and Lischer*

183. Preaching in the Black Community. A study of the style and content of black preaching with attention to the unique roles of black preachers in society. An analysis of the essential characteristic of preaching in the black church. *Staff*

186. Twentieth-Century Preaching. A study of contemporary preaching based on printed, recorded, audio-and video-taped sermons of leading homiletics of our age. *Staff*

187. Pre-Reformation Preaching. Sermons, handbooks, and other historical sources studied in relation to Biblical preaching and the liturgical church, the problem of popular ministry, and the issues of Christian reform. Prerequisite: CH 13. *Lischer and staff*

188. Post-Reformation Preaching. A study of the theological trends and significant personalities in the preaching tradition from the sixteenth century to the present. *Lischer and staff*

193. Theology and Preaching. An examination of the relation of systematic theology and homiletical presentation. *Lischer*

196. Preaching in the Parish. A consideration of preaching in relationship to pastoral duties and the total task of ministry with attention to week-by-week preaching in the parish setting. Some attention will be given to funerals and crisis situations. *Bergland*

WORSHIP AND CHURCH MUSIC

166. Worship as a Pastoral Concern. A practical course dealing with worship as an expression of a pastor's concern for Christian education, pastoral care, evangelism, theology, and social action. Opportunity will be given for students to evaluate themselves as worship leaders. *Willimon*

167. Baptism and the Lord's Supper. Study of these sacraments with attention given to major representative traditions and to varieties of present observance and practice. *Staff*

168. Worship in the Wesleyan Tradition. The history, development, and current trends in United Methodist worship along with practical experience and concerns related to worship leadership in United Methodist churches. *Staff*

178. Christian Worship. A survey of the history of Christian corporate worship. Examination of the major Biblical, historical, and theological developments in worship from Old Testament times to the present. Readings in liturgical thought through the ages with comparative study of selected liturgical traditions. *Staff*

180. Church Music. A two-fold study including: (1) a survey of the great monuments of church music; (2) musicianship, song-leading, and basic conducting with an emphasis upon the selection and use of hymns and other music from the *Methodist Hymnal* in public worship. *Staff*

184. New Forms of Worship. Workshop in corporate worship as central in the liturgical life of the church, and of both traditional and innovative means of communication, celebration, and witness, through shared experiences in multimedia center, field visits, and mini-workshops with resource persons in the various media. *Staff*

250. Advanced Seminar in Liturgical Studies. Reading and research in a selected area of liturgical study to be announced. *Staff*

251. Studies in Spirituality. A consideration of different dimensions of the spiritual life. *Staff*

V. Clinical Training and Internships

CLINICAL TRAINING IN PASTORAL PSYCHOLOGY

Students may earn up to two course credits for a quarter or unit of clinical pastoral education in programs accredited by the Association for Clinical Pastoral Education (ACPE).

Students involved in clinical training under the direct supervision of members of the pastoral psychology staff during the academic year should register for credit under PP 277 for two course units unless a course credit has already been received for PP 177, in which case only one rather than two credits will be granted for the CPE quarter. Students should apply for such training through the Director of Clinical Pastoral Education.

Students involved in clinical training in summer CPE quarters should register with ACPE and the Associate Dean for Curricular Affairs as soon as accepted for training by a chaplain supervisor. Upon the receipt of a supervisor's report at the end of the training period the student will receive two course units of transfer credit.

INTERNSHIPS

In consultation with the Director of Field Education and the Associate Dean for Curricular Affairs, an individually designed internship may be developed in a particular ministerial vocational area of interest. Under certain circumstances it may be possible to earn one unit of field education and two course credits through such internships. Such programs must be formulated and recorded in advance in the offices of both field education and curricular affairs.

125-126. Special Ministry Internship. When a student needs to develop professional competencies in a highly specialized form of ministry, the Director of Field Education will assist in designing an appropriate learning contract and in negotiating for a suitable placement setting, provided the arrangements meet the basic criteria approved by the Field Education Committee.

131-132. Ministry Through Social Agency Internship. A twelve-month placement in a regular personnel position in a social service agency to meet the job

description of the agency and to develop a personal mode and style of ministry in a secular setting through understanding, appreciation, involvement in, and critical theological reflection upon environment, structures, values, and decision-making processes as conveyed by the conduct of the agency.

137–138. Parish Ministry Internship. A twelve-month placement, individually designed to engage the student in specified learnings in a wide variety of ministry functions in a local parish, under qualified supervision and using the guidelines of a learning contract.

143–144. Campus Ministry Internship. A nine-to twelve-month placement in approved locations designed to provide special learnings in delivering a ministry to college students under qualified guidance and utilizing a learning contract which specifies seminars, a personal journal, directed reading, and consultations to develop competency in these functions.

175–176. Clinical Pastoral Education Internship. A twelve-month placement in a clinical program accredited by the Association for Clinical Pastoral Education (ACPE).

197–198. Mission Internship. A special internship to prepare for service in church missions may be arranged by enlisting in the national or overseas program of the United Methodist Board of Global Ministries for one to three years. As a requirement for agency planning, applications should be initiated in the fall of the middler year. Other denominational and/or work-study experiences abroad may be given field education credit by special arrangement with the Director of Field Education.

Department of Religion—Graduate Courses

The following courses are offered periodically in the Graduate Department of Religion by Department of Religion faculty and may be taken by divinity students with permission of the instructor.

- 217. Islam in India
- 219. Augustine
- 221. Reading in Hebrew Biblical Commentaries
- 230. The Meaning of Religious Language
- 231. Seminar in Christianity and Contemporary Thought
- 233. Modern Narrative and Religious Language
- 243. The Archaeology of Palestine in Biblical Times
- 244. The Archaeology of Palestine in Hellenistic-Roman Times
- 248. The Theology of Karl Barth
- 252. Nineteenth-and Twentieth-Century Roman Catholic Theology
- 254. Introduction to African Religions
- 255. Seminar in African Religions
- 258. Coptic
- 264. The Sociology of the Black Church
- 265. The Religions of the West Africa Diaspora
- 280. The History of Religions
- 281. Phenomenology and Religion
- 284. The Religion and History of Islam
- 301. Seminar in Contemporary Christian Ethics
- 302. Studies in Intertestamental Literature
- 304. Aramaic
- 304A. Targumic Aramaic
- 306. Language and Literature of the Dead Sea Scrolls
- 310. Readings in Judaica



- 323. A-B. Comparative Semitic I-II
- 324. Readings in the History of Religion
- 360. Special Problems in Religion and Culture
- 370. Seminar in Religion and Literature
- 380. Existentialist Thought

Appendix

ENROLLMENT SUMMARY 1981-82

Divinity School Students, total 363

316	M.Div.	(236 men, 80 women)
5	M.R.E.	(1 man, 4 women)
7	Th.M.	(7 men)
35	Special	

Students (18 men, 17 women)

Graduate Division of Religion Students, total 51

0	M.A./Ph.D.
51	Ph.D.

Total: 414

DENOMINATIONS REPRESENTED 1981-82

United Methodist	248	American Lutheran	2
Presbyterian Church of the U.S.	11	Church of the Nazarene	2
Disciples of Christ	10	Evangelische Kirche Der Union	2
Episcopal	8	Mennonite	2
Southern Baptist	8	Moravian	2
United Church of Christ	8	National Baptist	2
Lutheran Church in America	7	Presbyterian	2
Unaffiliated	7	Anglican	1
Roman Catholic	6	Associated Reformed Presbyterian	1
American Baptist	4	Freewill Baptist	1
Baptist	4	Pentecostal Assemblies	1
Missionary Baptist	4	Pentecostal Holiness	1
African Methodist Episcopal	3	Southern African Baptist Union	1
Christian Methodist Episcopal	3	United Church in Australia	1
African Methodist Episcopal Zion	2	United Holiness	1

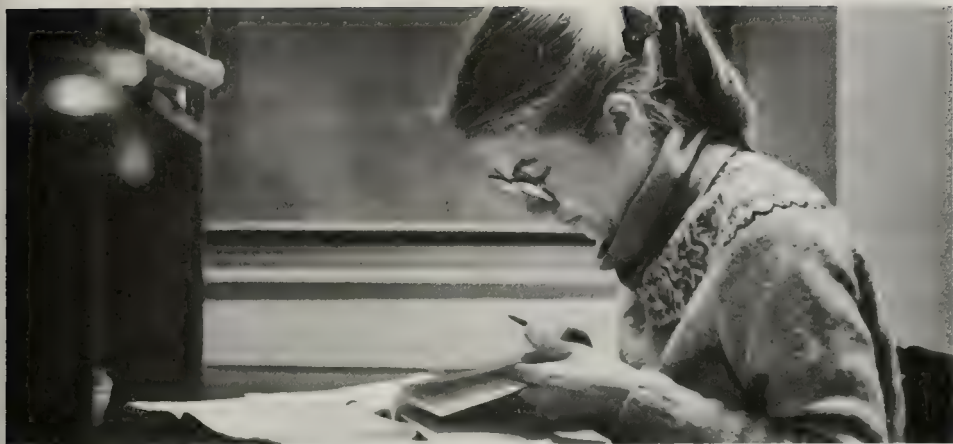
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Maryland	8	Louisiana	1
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New York	7	Nebraska	1
Ohio	6	New Mexico	1
Tennessee	5	Wisconsin	1
Texas	4	Foreign:	1
Connecticut	3	Australia	1
Illinois	3	Ghana	1
Kentucky	3	South Africa	1
Georgia	2	West Germany	3
Kansas	2		

DEGREES CONFERRED 1 SEPTEMBER 1981

Master of Divinity

Oliver T. Hill



DEGREES CONFERRED 30 DECEMBER 1981

Master of Divinity

Carol Ann Denton Ayres
 Beth Marie Rowe Barnett
 Jeffrey Gregg Craw
 Marilyn Kusch Gasswint

Louise Yvonne McCaskill-Baker
 Susan Lynn Pate
 Douglas Levin Stokes
 Susanna Lynn Williams

Master of Religious Education

Ernest Lee Mills, Jr.

Master of Theology

Robert W. Foland

DEGREES CONFERRED AT COMMENCEMENT 1982

Master of Divinity

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 R. Martin Armstrong III
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Master of Theology

Anthony Milton Imberi
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Alabama State University	1	Frostburg State College	1
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American University of Beirut	1	Georgia State University	1
Appalachian State University	2	Grambling State University	1
Asbury College	1	Grand View Hospital School of Nursing	1
Atlantic Christian College	15	Greensboro College	7
Averett College	3	Grove City College	1
Baylor University	1	Guilford College	2
Beaver College	1	Gustavus Adolphus College	1
Belmont Abbey	1	Hampton Institute	1
Bennett College	1	Helmholtz	1
Berea College	1	Hendrix College	7
Berey College	1	High Point College	8
Bluefield State College	1	Hollins College	3
Burrington College	1	Huntingdon College	7
California State College	2	Indiana Central University	2
Campbell University	1	Indiana University	2
Case Western Reserve University	1	International College	1
Central Wesleyan College	1	Iowa Wesleyan College	1
Centre College	1	Jarvis Christian College	1
Christchurch College	1	Lagrange College	1
Citadel College	1	Lambuth College	1
Claflin College	1	Lenoir-Rhyne College	2
Clemson University	1	Livingstone College	1
Colorado College	1	Lock Haven State College	1
Columbus College	1	Los Angeles Baptist College	1
Converse College	1	Louisiana State University	1
Cumberland College	1	Lutheran School of Theology	1
Davidson College	3	Lycoming College	1
Denver University	1	Mars Hill College	3
DePauw University	3	Marshall University	2
Duke University	19	McMurray College	1
Duke University-Divinity School	6	Memphis State University	1
East Carolina University	2	Methodist College	9
Eastern Mennonite College	3	Meredith College	5
Eastern Michigan University	1	Miles College	2
Elon College	2	Mississippi State University	1
Emmanuel College	1	Morris Harvey College	1
Emory and Henry College	3	Muhlenburg College	1
Emory University	1	Nazerene Theological Seminary	1
Fairmont State College	1	Nebraska Wesleyan University	1
Fayetteville State University	2	New Mexico State University	1
Ferrum College	3	North Carolina Agricultural and Technical State University	1
Florida Atlantic University	2	North Carolina Central University	3
Florida State University	5		

North Carolina Wesleyan College	8	University of Canterbury	2
Northern Illinois University	1	University of Connecticut	1
Northwestern University	4	University of Florida	2
Ohio State University	1	University of Georgia	1
Ohio Wesleyan University	1	University of Illinois-Chicago	1
Oklahoma City Southwestern University	1	University of Kansas	3
Oklahoma City University	1	University of North Carolina-Asheville	1
Ouachita Baptist College	1	University of North Carolina-Chapel Hill	22
Paine College	1	University of North Carolina-Elizabeth City	1
Pembroke State University	3	University of North Carolina-Greensboro	5
Pennsylvania State University	2	University of North Carolina-Wilmington	3
Pepperdine University	1	University of Notre Dame	1
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Princeton University	1	University of South Carolina-Aiken	1
Princeton Theological Seminary	2	University of South Florida	1
Purdue University	1	University of Tennessee	2
Queens College	2	University of Virginia	4
Radford College	2	University of Virginia-Clync Valley College	1
Randolph-Macon Women's College	1	University of West Florida	1
Richmond College	1	University of Western Cape	1
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Shaw University	1	Valdosta State College	1
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Southwestern at Memphis	1	Virginia Wesleyan College	3
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St. Olaf College	1	Washinton and Lee University	1
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Taylor University	1	West Virginia University	2
Tennessee Wesleyan College	1	West Virginia Wesleyan College	2
Towson State University	1	Western Carolina University	2
Trevecca Nazarene College	2	Western Illinois University	1
Trinity University	1	Wilberforce University	1
Tulane University	1	William and Mary, The College of	6
Union Theological Seminary	1	Wingate College	1
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University of Alabama	1	Winston-Salem State University	1
University of Alabama-Birmingham	1	Wofford College	6
University of Arkansas	3	Wright State University	1
University of California-Santa Cruz	1		

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Alspach, Steven Ray (B.A., Muhlenberg College), East Stroudsburg, Pennsylvania

Amundsen, Claire Ann (B.A., Florida State University), Seffner, Florida

Andrews, Martha Anne Hills (B.S., Furman University), Columbia, South Carolina

Andrews, Richard Willard (B.S., Frostburg State College), Frederick, Maryland

Angel, Andrew Stephen (B.A., Ohio State University), Sunbury, Ohio

Armstrong, Ralph Martin, III (B.S., North Carolina State University), Asheville, North Carolina

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Austin, Stephen Williams (A.B., Davidson College), Stony Point, North Carolina

* Ayres, Carol Ann Denton (B.A., Agnes Scott College), Lynbrook, New York

* Barnett, Beth Marie Rowe (B.A., Virginia Wesleyan), Hampton, Virginia

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 Berry, Amanda Lee (B.A., Duke University), Port Washington, New York
 Bickerton, Thomas James (B.A., West Virginia Wesleyan College), Moundsville, West Virginia
 Bishop, Mary Beth (B.A., Colorado College), Houston, Texas
 Blair, B. Ann (B.A., Radford College), Wytheville, Virginia
 Boley, William Hope (B.A., University of Virginia), Lynch Station, Virginia
 Bond, Luther Grant, II (A.A., Roxbury Community College; B.S., Ferrum College), Baltimore, Maryland
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 Howell, Robert Joseph, Jr. (B.A., University of South Carolina), Bethune, South Carolina
 Hoyt, Sally Dean (B.A., St. Olaf College), Minneapolis, Minnesota
 Huffstetler, David Boyce (B.A., University of North Carolina-Charlotte), Charlotte, North Carolina
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 Ladr, Brian Douglas (B.F.A., University of Connecticut), West Willington, Connecticut
 Lanier, George P. (B.A., Lambuth College), Dyersburg, Tennessee
 Lantz, Steven Edward (B.A., Indiana Central University), Anderson, Indiana
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 Carolina
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 Rawlings, James A. (B.A., Western Illinois University), Franklin, Illinois
 Reavis, James Lewis (A.A., Louisburg College; B.A., North Carolina Wesleyan College), Henderson,
 North Carolina

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 Reeves, William Orin (B.A., Hendrix College), Sheridan, Arkansas
 Reuter, Mark Aaron (B.A., Mars Hill College), Mt. Airy, North Carolina
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 Robertson, Terry Alan (B.S., U.S. Coast Guard Academy), Akron, Ohio
 Robinson, Christopher S. (B.S., Grambling State University), Longs, South Carolina
 Rollins, Robert William, Jr. (A.S., Wingate College; B.M., University of North Carolina-Greensboro), Hamlet, North Carolina
 Rose, Vernon Julius (B.A., University of Western Cape), Cape Town, South Africa
 Roth, William Errett (B.M., Huntington College), North Manchester, Indiana
 Samuel, James Ray (B.A., Livingstone College), Salisbury, North Carolina
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 Schwartz, Richard Alan (A.B., Duke University), Lynchburg, Virginia
 Scott, Robert Keith (B.S., Mars Hill College), Murphy, North Carolina
 Sexton, Kenneth Bryan, Jr. (A.B., Duke University), Leasburg, North Carolina
 Shackleford, Terry Lynn (B.A., Atlantic Christian College), Walstonburg, North Carolina
 Shoaf, Timothy Fred (B.M., Greensboro College), Greensboro, North Carolina
 Showers, Jeffrey Bruce (B.A., Huntingdon College), Huntsville, Alabama
 Sladky, Leslie Ellen (A.B., Duke University), Cuyahoga Falls, Ohio
 Smart, William David, Jr. (B.S., Miles College), Stratford, Connecticut
 Smith, Bruce Walter (B.A., Asbury College), Timonium, Maryland
 Smith, Charles Cooper (B.A., Virginia Wesleyan), Beaufort, North Carolina
 Smith, Cynthia June (B.A., Winthrop College), Seneca, South Carolina
 Smith, Francis Ronald (B.A., University of North Carolina-Charlotte), Charlotte, North Carolina
 Smith, Stuart Randolph (B.S., University of South Carolina), Columbia, South Carolina
 Smith, Timothy Hill (B.A., High Point College), Walkertown, North Carolina
 Somers-Ingersol, Cheryl (B.S.N., University of Kansas), Tulsa, Oklahoma
 Somerville, Raymond Ronald (B.A., Miles College), Jacksonville, Florida
 Sorrells, William Lyn (B.A., University of North Carolina-Chapel Hill), Dallas North Carolina
 Spengler-Aikens, Margaret (A.A., Harrisburg Area Community College; B.A., Pennsylvania State University), Harrisburg, Pennsylvania
 Stanley, Miles Eugene (A.B., Atlantic Christian College), Mebane, North Carolina
 Starr, Karen Elizabeth (B.A., University of South Carolina), Columbia, South Carolina
 Stewart, John Burton (B.A., University of North Carolina-Chapel Hill), Winston-Salem, North Carolina
 Stewart, Laurence Landon (B.A., DePauw University), New Ross, Indiana
 Stokes, Douglas Levin (B.A., Atlantic Christian College), Ayden, North Carolina
 Straus, Phyllis Hicks (B.A., University of North Carolina-Chapel Hill), Oxford, North Carolina
 Stricklin, David Bruce (B.A., M.A., Baylor University), Cleburne, Texas
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 Surret, David Cofield (B.A., University of South Carolina-Aiken), Aiken, South Carolina
 Swartz, Alan Ples (B.A., Methodist College), Salemburg, North Carolina
 Swofford, Cynthia Louise (B.A., Hendrix College), Fort Smith, Arkansas
 Tapper, Lona Letsy (B.S., Virginia Commonwealth University), Richmond, Virginia
 Tate, Wendy Elizabeth (B.A., West Virginia Wesleyan College), Alexandria, Virginia
 Tatum, Jimmie Ray (B.A., University of North Carolina-Wilmington), Elizabethtown, North Carolina
 Terrell, Allen (B.A., Fayetteville State University), Washington, D.C.
 Thomas, Brenda Elaine (B.A., St. Andrews College), Ellerbe, North Carolina
 Thomas, William Chandler (B.S., Ferrum College), Montvale, Virginia
 Tolbert, Michael Randall (A.A.S., Gaston College; B.E.T., University of North Carolina-Chapel Hill), Gastonia, North Carolina
 Tony, Pat Bennett (B.S., Longwood College; M.Ed., University of Virginia), Crewe, Virginia
 Townsend, William Clayton (B.A., Pembroke State University), Oxford, North Carolina
 Trotter, John Albert (B.Mus., Greensboro College), Durham, North Carolina
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 Turner, Kevin Roshell (B.A., University of North Carolina-Chapel Hill), Waynesville, North Carolina
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 Tyson, John Horton (B.A., Atlantic Christian College), Chapel Hill, North Carolina
 Tyson, Viola C. (B.S., Lock Haven State College), Flemington, Pennsylvania
 Uffman, Keith Alan (B.S., Louisiana State University), Baton Rouge, Louisiana

Vanlandingham, Brian (B.A., University of Florida), Eustis, Florida
 Vesper, Carolyn Cater (B.A., Duke University), Colby, Kansas
 Wade, David Carlton (A.A., Brevard College; B.A., Methodist College), Bonlee, North Carolina
 Walker, Edward Richard (B.A., The College of William and Mary), Newport News, Virginia
 Walker, Elaine Virginia (B.A., The College of William and Mary), Arlington, Virginia
 Walker, Patricia Kelli (B.A., Southwestern at Memphis), Ripley, Tennessee
 Warren, William Arthur (B.A., University of North Carolina-Wilmington), Salemburg, North Carolina
 Watts, Jerry Bryson (B.A., Mars Hill College) Candler, North Carolina
 Weakley, Jeffrey Barton (B.A., Christopher Newport), Yorktown, Virginia
 Webb, James T. (B.A., University of North Carolina-Chapel Hill), Kernersville, North Carolina
 Wedlock, Johanna Ruth (A.A., Sandhills Community College; B.S., University of North Carolina-Chapel Hill), Pinehurst, North Carolina
 White, Barry Maxville (B.A., University of South Florida), Tampa, Florida
 White, Bobby Dean (B.A., Atlantic Christian College), Bluefield, Virginia
 White, David Franklin, III (A.A., Anderson College; B.A., Furman University), Pendleton, South Carolina
 White, Quentin Jerome (B.A., Wilberforce University), Oakwood Village, Ohio
 Wilkerson, Richard Phillip (B.A., Tulane University; M.A., University of North Carolina-Chapel Hill), Chapel Hill, North Carolina
 Williams, Susanna Lynn (B.A., North Carolina Wesleyan College), Wanchese, North Carolina
 Williams, William (A.B., Pfeiffer College), Jackson Springs, North Carolina
 Wilson, Marion Heaton (B.A., Vassar College), Chapel Hill, North Carolina
 Wimmer, John Richard (B.A., Indiana Central University), New Castle, Indiana
 Wood, Linda Susan (B.A., Meredith College), Charlotte, North Carolina
 Woodham, Randal Mack (B.A., Huntingdon College), Dothan, Alabama
 Woodson, Robert (B.A., Queens College), Riverhead, New York
 Wooten, Dana Bruce (A.A., Mount Olive Junior College; B.A., Appalachian State University), Greensboro, North Carolina
 Wright, Bruce (A.A.S., Bronx Community College; B.S., Richmond College), Bronx, New York
 Yow, William Joseph (B.A., High Point College), Sanford, North Carolina

Candidates for the Master of Religious Education Degree

Cockman, Leslie Carol (B.S., High Point College), Asheville, North Carolina
 Harris, Gina Delise McAdoo (B.A. & S., Bennett College), Efland, North Carolina
 Hutchins, Catherine (B.A., Pfeiffer), Laurens, South Carolina
 Murphy, Karen Neola (B.A., Huntingdon College), Pensacola, Florida
 Palmer, Deidre Edith (B.A., Dip. in Ed., University of Adelaide), Adelaide, South Australia

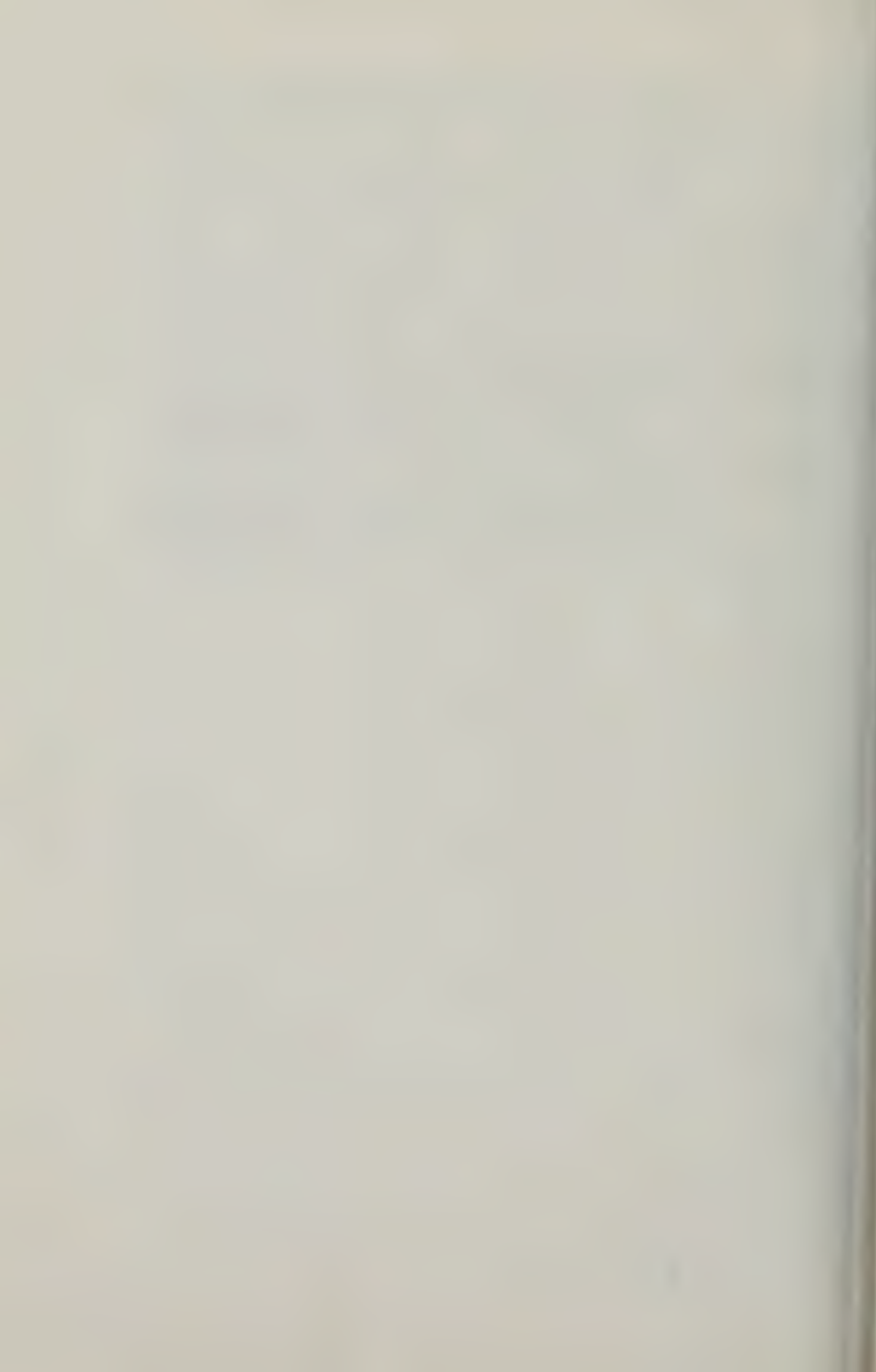
Candidates for the Master of Theology Degree

Bush, John (B.A., St. Andrews Presbyterian College), Augusta, Georgia
 Giragos, John Garabed (B.S., M.D., American University of Beirut; M.Div., Duke Divinity School), Durham, North Carolina
 Grunke, Ronald Clay (B.A., Duke University; M.Div., Duke Divinity), Durham, North Carolina
 Hanson, Alan Jay (B.A., Adrian College; M.Div., Duke Divinity; M.S., Eastern Michigan University), Durham, North Carolina
 Imberi, Anthony Milton (B.A., St. Paul Seminary; M.A., University of Notre Dame), Aberdeen, South Dakota
 Mericle, Skip Sterling (A.B., Duke University; M.Div., Duke Divinity), Durham, North Carolina
 Murphy, Larry Edwin (B.S., Trevecca Nazarene College; M.Div., Nazarene Theological Seminary), Fairmont, West Virginia
 Myers, Charles Donald (B.A., Wake Forest University; B.D., Union Theological Seminary), Reidsville, North Carolina
 Vesper, Keith R. (B.S., University of Kansas; M.Div., Duke Divinity), Hutchinson, Kansas
 Wall, Tom Hennies (B.A., University of South Carolina; M.Div., Duke Divinity), Columbia, South Carolina

Special Students

Bannerman, Joy Elvey (B.A., Wake Forest University; M.A., Appalachian State University), Montreat, North Carolina
 Bland, Linda Adams (B.A., M.A., Wake Forest University; M.A.T., Duke University), Elon College, North Carolina
 Brooks, Joyce Carmichael (B.A., University of North Carolina-Chapel Hill), Shallotte, North Carolina

Browder, James Pat (A.B., M.D., University of North Carolina-Chapel Hill; M.A., Fordham University), Chapel Hill, North Carolina
 Buchanan, H. Ray (A.A., Martin College; B.S., Tennessee Tech.), Durham, North Carolina
 Chambers, David Reid (B.A., University of North Carolina-Chapel Hill; J.D., North Carolina Central University), Durham, North Carolina
 Corey, Sheryl Smith (B.A., Duke University), Chapel Hill, North Carolina
 Denny, Gillian Anne (B.S., University of Canterbury), Hamilton, New Zealand
 Denny, Laurence John (B.A., University of Canterbury; L.Th., Christchurch College), Hamilton, New Zealand
 Drake, Victoria Kapp Jamieson (B.A., Wellesley College), Durham, North Carolina
 Franzen, David Michael (A.B., Gustavus Adolphus College; B.D., Lutheran School of Theology at Chicago), Durham, North Carolina
 Grega, Darlene E. (B.A., Valparaiso University), Durham, North Carolina
 Hoeprich, John Jeffrey (B.A., Burrington College; M.Div., Th.M., Princeton Theological Seminary), Winston-Salem, North Carolina
 Inskeep, Robert G. (Virginia Polytechnic Institute and State University), Raleigh, North Carolina
 Jones, Gary Durward (A.B., University of North Carolina-Chapel Hill), Chapel Hill, North Carolina
 Knees, Willfrid (ABITUR, Helmholtz Gymnasium), Kiel, West Germany
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 Nice, Evelyn Godshall (R.N., Grand View Hospital School of Nursing), Durham, North Carolina
 Robinson, Ronald Ray (B.A., Wofford College), Waynesville, North Carolina
 Small, Anita Lister (B.A., Duke University), Elizabeth City, North Carolina
 Stone, Sonya Anita (B.A., Sarah Lawrence College; M.S.W. Atlanta University; M.A., University of Illinois-Chicago; Ph.D., Northwestern University), Durham, North Carolina
 Suber, James Whitley (B.S., B.A., East Carolina University), Raleigh, North Carolina
 Thomas, Barbara Lee (B.A., Denver University), Manhasset, New York
 Wilson, Victor M. (B.A., Atlantic Christian College; M.Div., Princeton Theological Seminary), Ayden, North Carolina



Bulletin of Duke University
(USPS 073-680)
Durham, NC 27706

bulletin of

Duke University 1982-83

The School of Law





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Duke University 1982-83

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Typesetting by Electronic Composition Div., Computer Data Systems, Inc., Washington, D.C.
Printed by William Byrd Press, Richmond, Virginia

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The information in this bulletin applies to the academic year 1982-83 and is accurate and current, to the extent possible, as of May 1982. The University reserves the right to change programs of study, academic requirements, teaching staff, the calendar, and other matters described herein without prior notice, in accordance with established procedures.

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Calendar of the School of Law 1982-83

Fall Semester

1982

August	
20	Friday, 12:00 to 5:00 P.M.—Registration for entering and foreign students
21	Saturday, 5:00 P.M.—Orientation for entering students
23	Monday, 9:10 A.M.—Classes for first-year students begin
26	Thursday, 8:10 A.M.—Classes for upperclass students begin
October	
16	Saturday, Research and writing period for first-year students and placement recess for upperclass students begin
25	Monday, 8:10 A.M.—Classes for all students resume
November	
20	Saturday, Recess for reading and writing for first-year students
25	Thursday, Thanksgiving recess for all students begins
29	Monday, 8:10 A.M.—Classes resume
December	
10	Friday, Classes end
11	Saturday, Reading and examination period begins for upperclass students
14	Tuesday, Examination day for first-year students
16	Thursday, Examination day for first-year students
18	Saturday, Examination day for first-year students
22	Wednesday, Examination period for upperclass students end

Spring Semester

1983

January	
3	Monday, Lawyers and Clients course for first-year students begins
6	Thursday, 8:10 A.M.—Classes for upperclass students begin
7	Friday, Lawyers and Clients course for first-year students ends
10	Monday, 9:10 A.M.—First-year, year-long courses resume and spring courses begin
March	
5	Saturday, Spring recess for reading, writing, and placement travel begins
14	Monday, 8:10 A.M.—Classes resume
April	
20	Wednesday, Classes for upperclass students end
21	Thursday, Reading and examination period for upperclass students begins
22	Friday, Classes for first-year students end
26	Tuesday, Reading and examination period for first-year students begins
May	
4	Wednesday, Examination period for upperclass students ends
6	Friday, Reading and examination period for first-year students ends
8	Sunday, Commencement

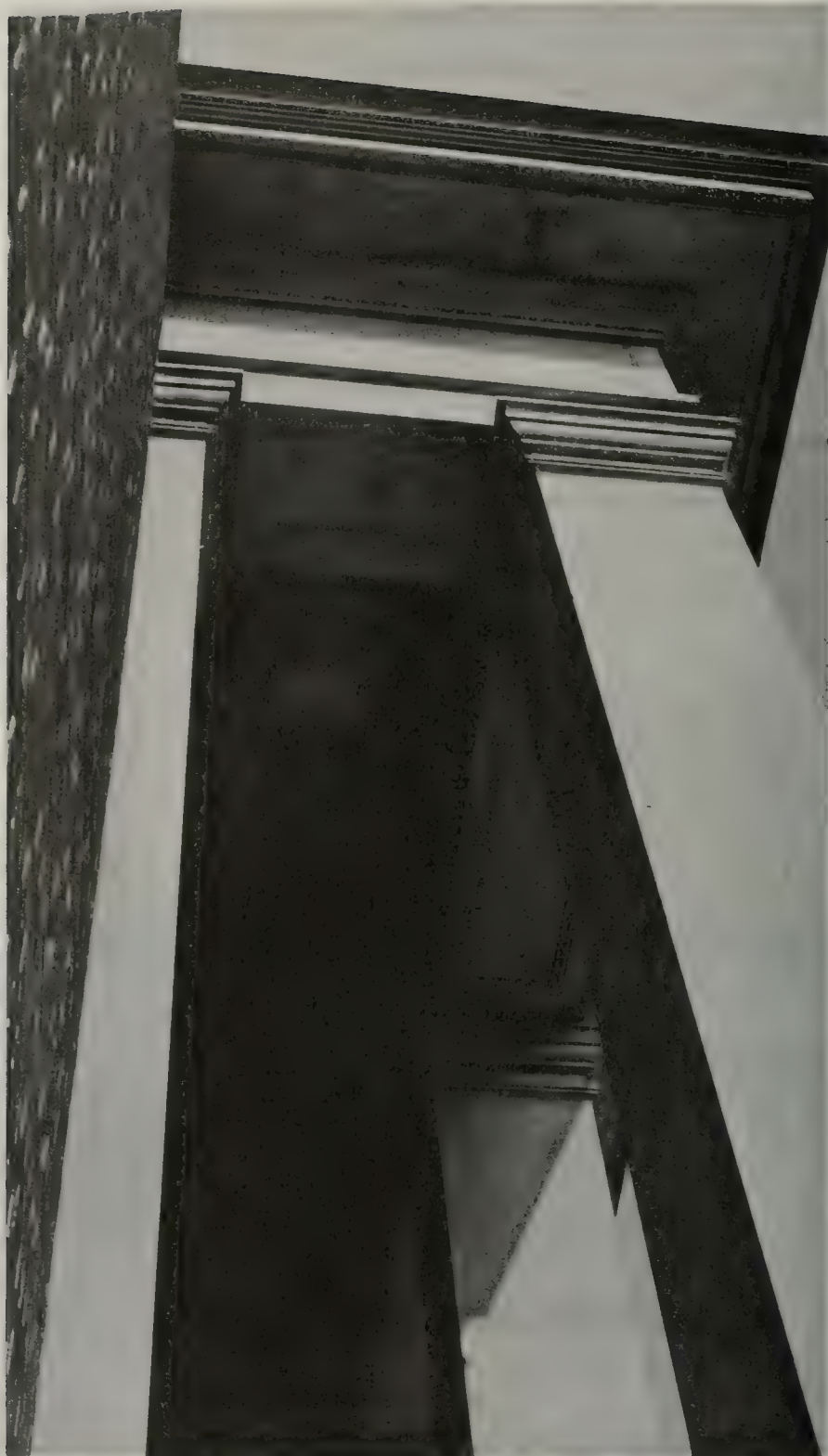
University Administration

Terry Sanford, J.D., LL.D., D.H., L.H.D., D.P.A., *President*
H. Keith H. Brodie, M.D., *Chancellor*
William Bevan, Ph.D., LL.D., Sc.D., *Provost*
Charles B. Huestis, *Vice-President for Business and Finance*
William G. Anlyan, M.D., D.Sc., *Vice-President for Health Affairs*
Eugene J. McDonald, LL.M., *Vice-President for Government Relations and University Counsel*
William J. Griffith, A.B., *Vice-President for Student Affairs*
Stephen Cannada Harward, A.B., C.P.A., *Treasurer and Assistant Secretary*
J. Peyton Fuller, A.B., *Assistant Vice-President and Corporate Controller*
Rufus H. Powell, LL.B., *Secretary of the University*
Andrew G. Wallace, M.D., *Associate Vice-President for Health Affairs*
Mel Ray, M.B.A., *Vice-Chancellor for Data Processing*
Joel Fleishman, LL.M., *Vice-Chancellor*

Law School Administration

Paul D. Carrington, *Dean*
Melvin G. Shimm, *Senior Associate Dean*
Thomas D. Rowe, Jr., *Associate Dean*
Charles R. Howell, *Senior Assistant Dean and Director of Admissions*
Thomas A. Croft, *Assistant Dean for Alumni Development and Placement*
Veronica M. Mahanger-MacPhee, *Assistant Dean for Student Affairs*
Katharine T. Bartlett, *Director of Clinical Studies*
Richard C. Maxwell, *Director of Continuing Legal Education*
Mary A. Monroe, *Administrative Assistant to the Dean*
Shirley Hanks, *Placement Officer*
Karen Haywood, *Senior Recorder*
Janse Conover, *Staff Assistant to the Dean*
Mary Jane Flowers, *Staff Assistant, Support Services*
Linda B. Harris, *Staff Assistant, Alumni and Development*
Mary Hawkins, *Financial Aid Assistant, Student Affairs*
Donna Moody, *Staff Assistant for Admissions*
Sarah F. Roberts, *Staff Assistant to the Director of the Library*





Altruism combined with realism; knowledge of fundamental principles and capacity to apply them; courage to insist on the right and patience to achieve it; understanding of the timidity of the weak; fearlessness of the domination of the powerful; sympathy for the mistakes of the indiscreet; caution of the craftiness of the unprincipled; enthusiasm for that which is fine and inspiring; reverence for that which is sacred; these are some of the attributes of great lawyers.

Justin Miller
Dean, 1930-34
Duke University School of Law

The Distinction of Duke



Mastering the Law

The business of the Law School is to provide a place where professors and students may join in the effort to explore and to master the discipline of law.

Many students come to law study with a limited perception of what they are about. Some suppose that law is a body of rules and that lawyers are people who know the rules. This is not wrong, but it is misleadingly incomplete. Legal rules are countless; many are subject to frequent change; they conflict; and their words often conceal more meaning than they reveal. Lawyers are people who understand and influence the ways in which elusive rules work in the minds of officials who must enforce them. Their discipline is thus more than a mass of data to be assimilated. It is an activity; and its mastery requires judgment and gift of expression as well as information.

Mastery of this discipline is rarely to be achieved by passive learning. True, much lonely effort is required. But full development requires substantial interaction with others. For most learners of law, the best school is the one that affords the best opportunity and inducement to participate in a prolonged conversation about the law with persons of wit, industry, and experience. The more intense the dialogue, the stronger is the mastery of the discipline.

One who seeks such interaction might wisely examine four qualities of a law school: the students, the faculty, the intellectual environment, and the program.

The Duke Law Students

Each year, about 175 first-year law students are enrolled at Duke; the aim is to maintain a student body of 500. Duke students are among the most rigorously selected in the United States; not more than four or five schools are able to maintain minimum academic admission standards that are higher than Duke's. Most entering students will present undergraduate academic records in the range of A minus or higher, and most will have scored around 700 on the standardized test or higher.

Equally important, most Duke students bring other qualifications that assure their ability to contribute to the enterprise of mutual learning. About twenty-five members of a recent typical class are over twenty-five years of age. Many of these persons have recorded significant achievements in some activity outside the law. Others have attained graduate degrees in other disciplines. More have achieved particular distinction as undergraduates. Thus, there are accomplished writers, experienced performing artists, outstanding athletes, and others of unusual achievement.

Duke law students are unusually diverse in their backgrounds. The geographic distribution may be the broadest of any American law school. The number of undergraduate institutions represented in the student body is almost certainly the largest in proportion to size. As must be the case with such institutions, the great bulk of the students are from middle-class suburban families. But a few are from rural communities. Some are from inner-city neighborhoods. And the ethnic diversity is substantial. There is not and has never been a quota of any kind at Duke, but there is a continuing effort to achieve racial diversity in the mix of the student body.

Diversity has been achieved with no substantial compromise on academic or intellectual qualifications. No one has been admitted to Duke who was regarded as a serious academic risk. The quality of Duke's minority students is attested to by the fact that in one recent class, four of twelve members achieved election on merit to the honorific Duke *Law Journal*.

The Duke Law Faculty

There are presently thirty-one persons holding professorial appointments in law at Duke; all but nine of these hold academic tenure. They were selected after extensive search for the persons with the greatest capacity for legal discourse. Those holding tenure are persons who have proven themselves as excellent scholars who maintain positions of prominence in their fields. They are also expected to maintain excellence in the classroom. The full-time faculty are not expected to practice law; while minor consulting efforts are an appropriate method for maintaining contact with the profession, the professors are committed to scholarship, teaching, and public service. Most of the faculty have had substantial experience as lawyers, and not infrequently leaves are granted for the purpose of performing professional work elsewhere. Each year, several of the faculty are absent to teach elsewhere, to engage in research or government, or to assist in the administration of the University. But their places are filled with visiting faculty, and the visitors are often persons of unusual stature.

The professorial faculty is assisted in the presentation of the law curriculum by a number of persons who have limited or qualified commitments to the law school program. The faculty includes senior lecturers, lecturers, fellows, and instructors in legal research. These persons are selected on the basis of the special contribution that each is able to make to the teaching program. They are selected from year to year in light of the needs of Duke students for particular kinds of instruction. A number of the adjunct faculty are legal practitioners; a few are scholars in law-related disciplines.

The Duke Environment

The Law School is part of a university of relatively recent origin. Founded in 1924 with a single giant benefaction to a small college, Duke promptly took a place beside Stanford and Chicago among the newer elite of American universities. Most of its schools and departments are recognized as superior. The School of Medicine and its hospital are particularly noted. All of the University's endeavors are conducted on a moderate scale with respect to the numbers of students served. Less than ten thousand students are enrolled in the University.

The relatively small size of the Law School is an important attribute. There is very little anonymity at Duke. Students are close to the faculty and to one another. The resulting sense of community tends to ease competitive pressure. Law students everywhere are an aggressive lot, and some elite law schools can be infected with a spirit of destructive competition. This can seriously obstruct the process of mutual instruction, and can even cause passivity and alienation among

many students. Inertia in the midst of frenzy is the unfortunate syndrome. The phenomenon occurs less frequently in an institution that is conducted on a smaller, human scale, where friendships are more easily maintained. At such a school, it is more likely that competition amongst students will be stimulating and benign.

The sense of community within the Law School at Duke is enlarged by the fact that few of the students are involved with competing interests or relations in the area. Only one in nine of the students is a North Carolinian. Less than one in ten has previously attended Duke University. Relatively few are employed outside the University during the academic year. Most live, during the academic year, within a few minutes of the school. Thus, although the Law School does not maintain a residential facility for law students, there is at all times a substantial group of students working and talking in the building. The law building is not dramatic, but is designed to accommodate a fairly intimate and sociable learning habit.

The city in which Duke is located is a nineteenth-century tobacco mill town, the home of Bull Durham, Chesterfields, and Lucky Strikes. It is also now the location of a particularly prosperous black business community that includes the headquarters of a large insurance company. And it is part of a metropolitan area that includes Raleigh, the state capital, and Chapel Hill, the location of the University of North Carolina's main campus.

This metropolitan area does provide ample opportunity for recreation, but the attractions are not so numerous as to be a major source of distraction. It is no longer remote; there are frequent short flights to Washington. And its cultural isolation, a remnant of southern history, is rapidly diminishing. The center of the metropolitan area is now the Research Triangle Park, where over thirty substantial research laboratories are located, and where over twelve thousand scientists and engineers are employed. The high concentration of professional and scientific workers in the area has brought significant change. A symphony orchestra of quality is supported. In 1978, the American Dance Festival relocated in Durham. In 1982, the University opened a new student center which provides excellent accommodations for orchestral, ballet, and theatrical performances, and for films. This center is a few hundred yards from the Law School.



The Duke Program

The curriculum is distinctive in the degree to which students are drawn into formal dialogue with the faculty and with one another.

The most distinctive features are presented in the first year. Duke, unlike most schools serving similar students, invests a proportionate share of its teaching resources to instruction of first-year students. Students are generally assigned to take one beginning course in a class of not more than twenty-five students; in these classes, a heavy emphasis is placed on student participation. Every member of the class is expected to participate in the discussion frequently.

In addition, all first-year students are assigned to a tutorial program in legal writing and advocacy. Each member of the class is required to do a substantial amount of writing under faculty supervision. Student work is criticized and often rewritten until a high standard of quality is achieved. The experience provided is not unlike that which is afforded at many schools only to those students who are elected to law reviews, where the students vigorously edit the work of one another.

The intended effect of these features of the first-year program is to involve students more deeply with one another and with the faculty in a shared intellectual enterprise. This effort is continued through the upperclass years in the seminar offerings.

Beginning in 1983, one-eighth of the entering law class will be admitted for a special program beginning about the first of June. These students will begin the study of law simultaneously with the study of economics or philosophy at the graduate level; this bifurcated study will continue through the first year; at the end of that year, these students will have completed all of the work required of first-year law students, and will also have made a solid start on an advanced degree in a second discipline. The purpose of this program is to reinforce the interest of the participating students in law as an academic discipline that is linked to others. This program will be experimental in its first two years of operation. It is a joint venture of the Law School and the Graduate School.

A number of the advanced seminars are presented by the clinical method. Students are placed in professional roles and asked to perform the intellectual endeavors of lawyers. Their performances are criticized, often by practitioners who are actively engaged in the professional activity involved. Many of these clinical seminars require substantial writing. One, the seminar on trial practice, is largely forensic and involves heavy use of videotape to review and criticize student presentations.

Other seminars are directed at more purely theoretical topics. But these, too, are conducted in small groups of twenty-five or less, and generally require substantial writing. These offerings also serve to bring students into closer contact with one another and with the faculty in the common pursuit.

A new feature of the upperclass curriculum is the Research Tutorial, which brings together a small group of students and faculty for the purpose of a joint venture in scholarship leading to publication.

The substance of law study at Duke is otherwise largely the same as that presented elsewhere; all American law schools study the same general subject. First-year offerings are especially conventional. The Duke law curriculum, like that of other fine schools, does offer a few features that reflect interests, traditions, or opportunities that are special if not unique. At Duke, a special effort is made to provide substantial advanced offerings in the corporate area and in particular areas of litigation.

The Duke program is not ideal for all applicants. Despite the distinctive features of the curriculum, the prospective applicant should note that larger schools with larger faculties may present a somewhat larger array of offerings. This

is the one unavoidable adverse consequence of maintaining a smaller size. Students who are especially keen to have the widest possible selection of advanced courses would be wise to examine the catalogues of the largest schools. Whether the trade seems advantageous or not must necessarily depend in part on how highly the individual values the characteristics that Duke seeks to preserve by its smaller size. Especially for those who prefer anonymity, or who value the right to remain passive in the assimilation of learning provided by others, Duke is not likely to be the best choice. Nor is it likely to be best for those who wish to test themselves in an atmosphere of unrestrained academic competition.

The Status of Duke

In addition to these four characteristics of a law school, many applicants are strongly influenced by a more general sense of institutional status or repute. Indeed, the desire to achieve status is a very powerful force, and is often closely related to professional goals; hence it is not surprising that law school applicants are susceptible to such appeal.

One might be tempted to dismiss their preoccupation as unworthy. Those who make choices on the basis of a social or an academic pecking order may seem to care more about the appearance than the reality of what they do. Certainly, we should all take care not to mistake any academic credential, however lustrous, for wisdom or virtue. It is probably true that we pay more respect to such paste jewelry than it deserves.

Yet, the consequences of institutional status are real. Status can be converted into money, power, and influence through the operation of the job market. In a sense, persons selecting a professional school do become members of a guild who share in some degree a common repute and a common access to employment opportunities. The value of being certified by an elite law school can even be crudely measured by econometricians. Crude as they may be, these measurements do reflect real perceptions by an identifiable public.

According to social scientists who measure institutional status of law schools, it appears that Duke is presently assigned a rank not higher than ninth nor lower than thirteenth. Inasmuch as these are the only scientific data available on the subject of law school quality, the consumer might well be tempted to rely wholly on such rankings. One could do worse.

On the other hand, one who is bent on this approach might also wish to consider another factor that bears on the worth of one's academic credential and that may be considerably more consequential than the status of the institution. This is the academic record attained by the individual in question. Although academic records are very narrow measures of capacity and poor forecasts of the productivity of careers that lie ahead, they are taken seriously for a time by people who have no better basis for judgment. Thus, a distinguished graduate of an undistinguished school may have better first opportunities than would be open to the same person with an undistinguished record at a distinguished school. This is annually an occasion for sorrow by graduates of elite schools who are passed over in the initial job market for persons who failed to gain admission to equally prestigious schools. So the clear-eyed person exclusively concerned with "maximizing options" must balance institutional status against a prediction of his or her own academic attainment.

When the risk factor is taken into account, it seems imprudent to rely wholly on perceptions of institutional status as a basis for choice. Status is a legitimate and relevant datum. But, as GNP does not reveal the quality of national life, so institutional status does not reveal the effective utility of a particular school for an individual student. Duke would prefer to attract its students on the basis of its personnel, its program, and even its location, leaving the matter of status to take

care of itself. No assurance can be made to any student that he or she will achieve higher status by reason of attendance at Duke.

Nevertheless, a few words may be addressed to the concern. In addition to the statistical measures of institutional fame, those less familiar with the institution are entitled to know that the alumni, though few in number, are widely distributed in important professional positions throughout the country. They hold important positions in the government and in the judiciary. Many are partners in major law firms, including firms in almost every large American city. A significant number are teaching law in other universities. The quality of the alumni group is attributable in part to the fact that Duke admission standards have always been high. Thus, placement of Duke graduates has never been a major institutional problem. This is not to say, of course, that most Duke students get precisely the jobs they want. No law school could make such an assertion. There is always some adjustment to be made by many students to match aspiration to opportunity. It should also be acknowledged that there may be a few communities in the United States that are sufficiently insular that penetration by outsiders is difficult; New Orleans is one preeminent example. But even in such communities, small numbers of Duke law alumni can be found working and prospering. And, in contrast, there are some southern cities in which Duke law alumni play a truly dominant role.

Law at Duke and Professional Competence

Another matter that may weigh in the minds of many prospective law students is the objective of achieving professional competence. Interest in this goal has been heightened in recent years by the number of expressions of doubt about the competence of lawyers that have come from persons highly placed in the profession. Some have suggested that law schools are doing less than they should to assure the competence of their graduates.

Because of the timeliness of the subject, it seems wise to point out that the professional competence of its graduates is not an assurance that Duke is prepared to make. Most Duke alumni are very competent, indeed, to perform their work. It is certainly expected that this will continue to be true. But there are several reasons why Duke cannot accept responsibility for the quality of the services ultimately delivered by its graduates. And it may be useful for prospective students to have in mind some of them.

One reason is that law students will as lawyers perform an enormous diversity of services. Merely defining general legal competence is a task beyond our present capacity; only if the work is more narrowly defined does the objective have meaning. Most students do not have sharply defined career objectives.

A second reason for diffidence is that the ingredients of competence, insofar as we understand them, include diverse personal traits that a university has but limited capacity to influence and no ability to control after graduation. Competence is, for the most part, a condition or a habit that lawyers must impose upon themselves.

Thirdly, it is true that much lawyer work is not of the sort that makes rigorous intellectual demands. The University seeks to maintain an environment in which questioning and speculation are the normal disposition. Such an institution is inefficient and ineffective when its energies are applied to the more confining tasks of technocracy that may be a part of many lawyers' work.

This is not to say that academic law training at Duke is unrelated to professional competence. The skills of reading, writing, speaking, listening, and thinking are elevated by academic work in law, and they are the basic skills of lawyers. Thus, most of the Duke program of individual instruction is especially helpful in achieving professional competence.

Moreover, there is very little work of importance that is performed by lawyers that does not depend in part on an understanding of the law, which is the central

object of academic study. While mastery of law as an intellectual discipline is not a guarantee of competence, it is certainly a major component. Indeed, it is true for the most challenging work performed by lawyers that highly theoretical study is the best preparation. Many professional tasks call for imagination, judgment, and wisdom; these are traits that are associated with the pursuit of law as an intellectual discipline. Development of such traits is, to be sure, an enterprise to be extended over the whole of a career and is not the end of university law training. The office of academic law study is to open minds to the range of possibilities that may be pursued by those who aspire to still deeper understanding and stronger mastery of the subject.

It may be that the most important effects of a Duke law education on lawyer competence are not immediately aimed at job performance. Thus, among the tasks that the faculty sets for itself is to enable students to perceive law as a humanist discipline, demanding in its intricacy, but incorporating at times the whole range of human experience. What students bring to law study in understanding history, philosophy, literature, anthropology, and a dozen other disciplines is truly relevant and ought not to be left at the portals of courtrooms and law offices. The lawyer who retains a generous sense of relevance is more likely to grow in wisdom and judgment over the longer term of his or her career.

Moreover, competence seems to be closely associated with the pride and self-esteem of individual professionals. It is no small source of pride if law students can know that they have met some of the most intractable problems that men and women can meet, and have yet performed with credit.

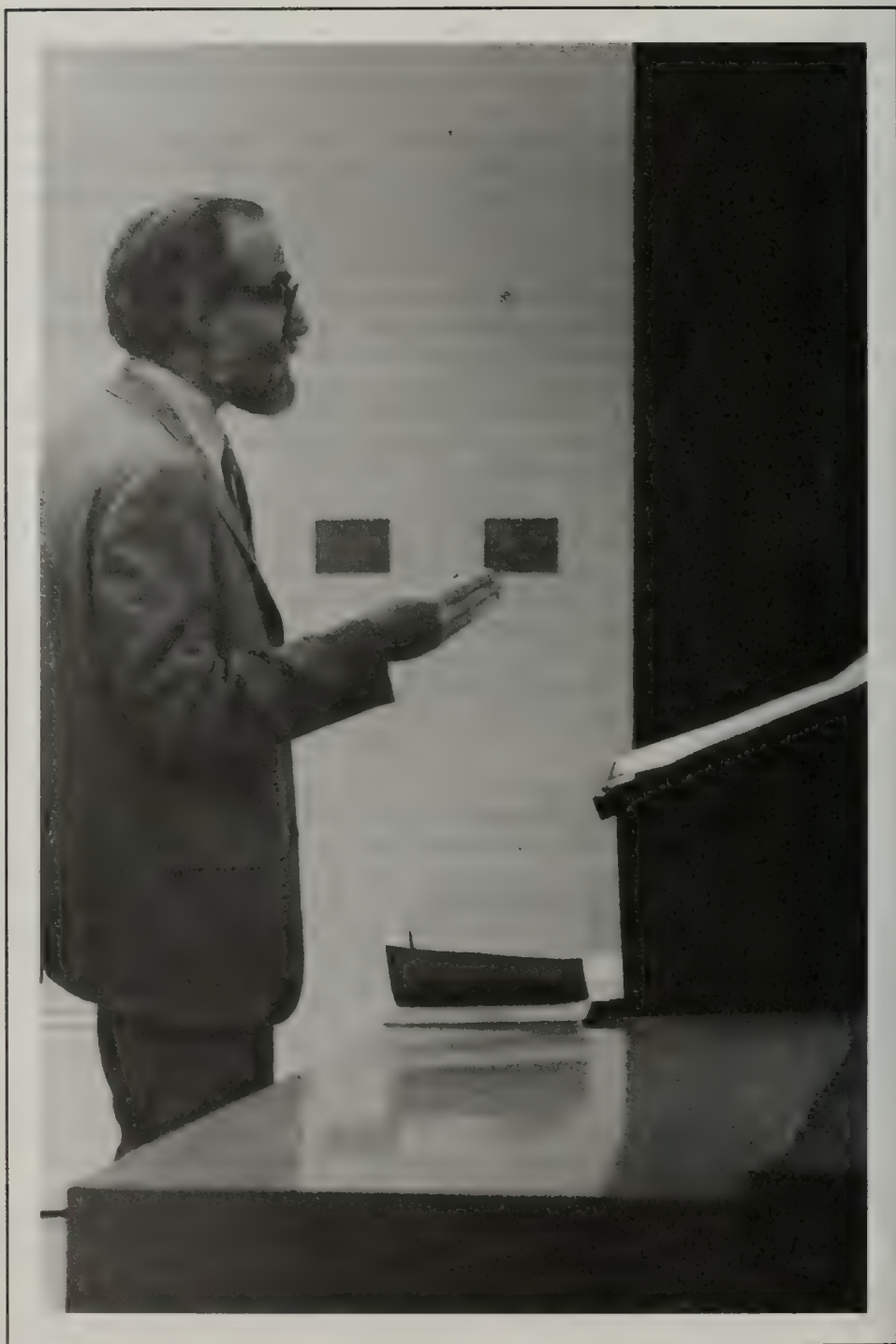
Finally, competence seems also to be associated with professional integrity because it depends on a willingness to perform even when rewards are postponed, or unpromised. One feature of law that is fully revealed only to those who have pursued it rigorously is that even at its worst, when the law is stupid or cruel, it retains a tendency to improve itself. If thus seen to reflect a heartening idealism, it provides a comfort to the lonely practitioner in those moments when he or she is tempted to forsake craftsmanship, to overreach or neglect a client.

In these ways, the kind of experience that Duke seeks to provide is preparation more for a career than for a job.

Conclusion

Duke does not expect law students to come with well-defined career goals. It does expect that they will bring a respect for the academic enterprise and a curiosity about the institutions and values of law. It also expects that those who leave will share a commitment to the craft of law, and a spirit that will help them bear important responsibilities through all of their productive years, with credit to themselves and to one another. The contribution that Duke hopes to make is to provide an environment in which such shared commitments can germinate and flourish.

Law Faculty



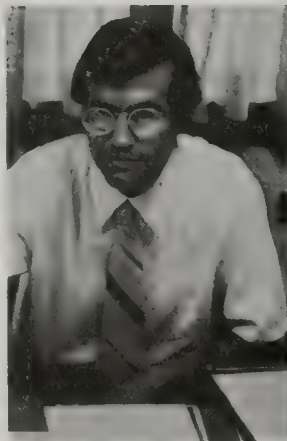
Jean Taylor Adams, B.A., M.Ed., J.D., Assistant Professor of Law

B.A. 1972, M.Ed. 1975, J.D. 1979, Duke University. Professor Adams spent her early years in the area of Philadelphia, Pennsylvania. She was employed by Duke University for two years as an Admissions Counselor and for two years in the Development Office in the estate planning division. She compiled an unusually distinguished academic record in law school, where she also served as Editor-in-Chief of the *Duke Law Journal*. She began her professional career in law in 1980 and continues as an Assistant Professor of Law at Duke, teaching in the area of estate planning and taxation.



Ronald Jay Allen, B.S., J.D., Professor of Law

B.S. 1970, Marshall University; J.D. 1973, University of Michigan. Professor Allen is a native of Chicago. After graduating from law school, he became clerk to a federal judge. He began his academic career at the University of Nebraska College of Law, and has since taught at the State University of New York at Buffalo and at the University of Iowa College of Law. Professor Allen's teaching and research interests center on criminal law; his special interests include evidence, procedure, and mental illness and the criminal law.



Patrick S. Atiyah, M.A., D.C.L., *Martha G. Price Visiting Scholar*

M.A., D.C.L. (Magdalen College, Oxford University). Professor Atiyah was called to the bar (Inner Temple) in 1956; his first teaching appointments were at the London School of Economics (1954-1955) and the University of Khartoum (1955-1959). After serving as a legal assistant to the Board of Trade he returned to the academic world at Oxford (New College) in 1964. Since that time he has held professorial appointments at the Australian National University (1970-1973), Warwick University (1973-1977), and, once again, Oxford, where he is currently Professor of English Law and Fellow of St. John's College. Professor Atiyah is a leading authority on the law of contract. His 1979 work *The Rise and Fall of Freedom of Contract* is a wide-ranging examination of the development of modern contract doctrine in England from the eighteenth century to the present. He is now at work on a companion volume elaborating a new theory of contract doctrine which will analyze the significance of reliance and restitution in a manner different from that found in classical contracts theory.



Katharine Tiffany Bartlett, B.A., M.A., J.D., *Associate Clinical Professor of Law, Director of Clinical Studies*

B.A. 1968, Wheaton College; M.A. 1969, Harvard University; J.D. 1975, University of California, Berkeley. A native of Connecticut, Ms. Bartlett served for three years as a secondary school teacher in that state before entering law school. She commenced her legal career with a judicial clerkship in the Supreme Court of California. From 1976 to 1979, she worked as a Staff Attorney at the Legal Aid Society of Alameda County concentrating on law reform and major impact litigation. Since 1979, she has been teaching in the clinical studies program at Duke. Her special areas of interest include pension law, and the child and the law. She is Director of Clinical Studies.



Sara Sun Beale, B.A., J.D., *Associate Professor of Law*

B.A. 1971, J.D. 1974, University of Michigan. A native of Toledo, Ohio, Professor Beale's experience includes a judicial clerkship on the United States Court of Appeals, as well as a year in private practice in Detroit, Michigan. In 1976 she joined the United States Department of Justice, where she served one year in the Office of Legal Counsel, and two years in the Office of the Solicitor General. She began her teaching career at Duke in 1979. Her principal academic interests are in the field of criminal law and procedure.



Charles L. Becton, B.A., J.D., *Lecturer in Law*

B.A. 1966, Howard University; J.D. 1969, Duke University. A native of Morehead City, North Carolina, Mr. Becton began his legal career with a year of service as an attorney for the NAACP Legal Defense and Educational Fund, after which he entered private practice in Charlotte and in Chapel Hill, North Carolina. He is a litigation specialist who has lectured widely on trial practice, including for the National Institute of Trial Advocacy, the North Carolina Academy of Trial Lawyers, and at Harvard Law School and the University of North Carolina School of Law. He has been teaching a course on the subject at Duke since 1980. He is currently a North Carolina Court of Appeals Judge.



Donald H. Beskind, A.B., J.D., LL.M., *Senior Lecturer in Law*

A.B. 1969, George Washington University; J.D. 1973, University of Connecticut; LL.M. 1977, Duke University. Mr. Beskind is from Westport, Connecticut. He engaged in private practice in Denver for two years before coming in 1975 to Duke, where as an Assistant and Associate Professor he taught evidence and courses in the clinical studies program. From 1979–80 he was Director of that program. Since 1976, he has prepared instructional materials and led programs for the National Institute for Trial Advocacy. Mr. Beskind is in private practice in Durham, and teaches occasional courses as a Senior Lecturer.



H. Keith H. Brodie, A.B., M.D., *James B. Duke Professor of Psychiatry and Law and Chancellor, Duke University*

A.B. 1961, Princeton University; M.D. 1965, Columbia University. Dr. Brodie served at hospitals in New Orleans and New York City before becoming a Clinical Associate with the National Institute of Mental Health in 1968. In 1970, he joined the medical faculty of Stanford University. He was awarded a first prize in 1971 for research by the American Psychological Association. Dr. Brodie is a member of the Institute of Medicine of the National Academy of Sciences. He chairs IOM's Board of Mental Health and Behavioral Medicine. He came to Duke in 1974 as Professor and Chairman of the Department of Psychiatry and Director of Psychiatric Services at Duke University Medical Center. He is President of the American Psychiatric Association. His most recent book is *Modern Clinical Psychiatry*, published in 1982. He teaches in the area of psychiatry and law.



Paul D. Carrington, B.A., LL.B., *Professor of Law*

B.A. 1952, University of Texas; LL.B. 1955, Harvard University. Professor Carrington is a native of Dallas, Texas. His professional experience includes a brief stint in private practice in Dallas and in a military law office, as well as occasional work for the American Civil Liberties Union and the American Association of University Professors. Since his teaching career began in 1957, he has taught at more than a dozen law schools, including most notably the University of Michigan, where he served from 1965 to 1978, before becoming Dean at Duke. He has been active in judicial law reform efforts, particularly in regard to appellate courts and procedure. He has also been involved in the affairs of the Association of American Law Schools, most recently as Chairman of its Accreditation Committee. His public activities also include a term on the Ann Arbor Board of Education. He has published in the fields of civil procedure, education law, and legal education.



Michael G. Chiorazzi, B.A., J.D., M.L.L., *Instructor in Legal Research*

B.A. 1976, University of Miami; J.D. 1980, Gonzaga University; M.L.L. 1981, University of Washington. Mr. Chiorazzi is a native of New Jersey. After graduating from Gonzaga Law School, he studied law librarianship at the University of Washington in Seattle. He joined the Duke Law Library staff in September of 1981, serving as a Reference Librarian and an Instructor in Legal Research.



George C. Christie, A.B., J.D., S.J.D., *James B. Duke Professor of Law*

A.B. 1955, J.D. 1957, Columbia University; S.J.D. 1966, Harvard University. A native of New York City, Professor Christie was Editor-in-Chief of the *Columbia Law Review*. He commenced his legal career with private practice in Washington, D.C. In 1960-61, he was a Ford Fellow at Harvard Law School; and in 1961-62, he was a Fulbright Scholar at Cambridge University, where he earned a Diploma in International Law. He then joined the law faculty of the University of Minnesota, where he taught for almost four years. In 1966, he returned to Washington to serve as Assistant General Counsel for the Near East and South Asia of the Agency for International Development before coming in 1967 to Duke. He has been active in the International Law Section of the American Bar Association and has served for five years on the editorial board of the *American Journal of Legal History*. He is currently a member of the board of editors of *Law and Philosophy*. His chief academic interests are in the areas of torts and jurisprudence, in both of which he has published widely; he is the editor of a coursebook in jurisprudence published in 1973. He was on leave during the academic year 1980-81, serving as a fellow of the National Humanities Center.



Kathryn M. Christie, B.A., M.A., J.D., M.S.L.S., *Instructor in Legal Research*

B.A. 1971, Duke University; M.A. 1972, J.D. 1979, M.S.L.S. 1980, University of Illinois at Champaign-Urbana. A Florida native, Ms. Christie began her professional career as research attorney and county law librarian for the Sixth Judicial Circuit in Urbana, Illinois. She joins the Duke law library staff as Reference and Research Librarian, and will teach legal research.



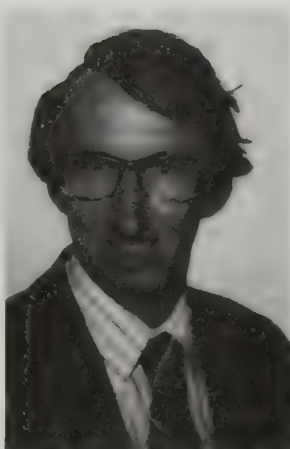
Charles T. Clotfelter, B.A., M.A., Ph.D., *Associate Professor of Public Policy Studies and Economics*

B.A. 1969, Duke University; M.A. 1972, Ph.D. 1974, Harvard University. Professor Clotfelter is a native of Birmingham, Alabama. Before coming to Duke he taught economics at Harvard University and the University of Maryland and was a Brookings Economic Policy fellow in the Office of Tax Analysis, U.S. Treasury. He joined the Duke faculty in 1979 as a member of the faculty in the Institute of Policy Sciences and Public Affairs and the Department of Economics. His research interests include public finance, tax policy, and urban economics.



James D. Cox, B.S., J.D., LL.M., *Professor of Law*

B.S. 1966, Arizona State University; J.D. 1969, University of California, Hastings College of the Law; LL.M. 1971, Harvard University. Professor Cox is a native of Ellinwood, Kansas. He entered law teaching as a teaching fellow at Boston University, following which he taught at the University of San Francisco, Stanford University, and the University of California, Hastings College of the Law, before coming to Duke in 1979. He has focused his writing and teaching in the areas of corporate and securities law. Professor Cox is the author of a 1980 book on the utilization of financial information in the regulation of public corporations.



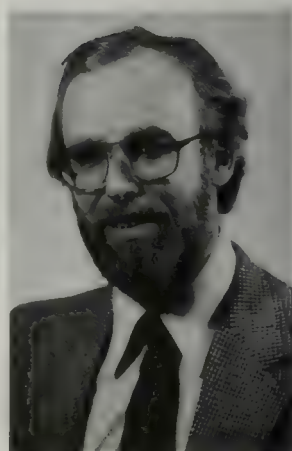
Thomas A. Croft, A.B., J.D., *Lecturer in Law*

A.B. 1976, J.D. 1979, Duke University. Following graduation from law school, Mr. Croft returned to his native city of St. Louis, Missouri, where he engaged in private practice, concentrating in the area of commercial litigation. He has been at Duke since 1980, serving as Assistant Dean for Alumni and Development, and, drawing on his expertise and prior teaching experience in accounting, offering the course in financial information.



Richard A. Danner, B.A., M.S., J.D., *Associate Professor of Legal Research*

B.A. 1969, M.S. 1975, J.D. 1979, University of Wisconsin. Mr. Danner comes from Madison, Wisconsin. Prior to joining the library staff at Duke as Associate Law Librarian in 1979, he was Environmental Law Librarian at the University of Wisconsin. He assumed directorship of the Law Library in 1981. He continues to teach legal research. His book, *Legal Research in Wisconsin*, was published in 1980.



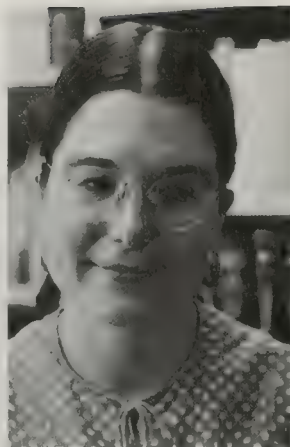
Walter E. Dellinger III, A.B., LL.B., *Professor of Law*

A.B. 1963, University of North Carolina; LL.B. 1966, Yale University. Professor Dellinger is a native of Charlotte, North Carolina. He taught political and civil rights at the University of Mississippi from 1966 to 1968. In 1968-69, he served as a judicial clerk in the Supreme Court of the United States. He joined the Duke law faculty in 1969, serving as Associate Dean from 1974 to 1976 and as Acting Dean from 1976 to 1978. He has also taught at the University of Southern California and the University of Michigan. He has, since 1969, served as Consultant and Draftsman to the North Carolina Criminal Code Commission. He was on leave for the academic year 1980-81, with the United States Department of Justice, in Washington, D.C.



Deborah A. DeMott, B.A., J.D., *Professor of Law*

B.A. 1970, Swarthmore College; J.D. 1973, New York University. Professor DeMott spent her early years in DuBois, Pennsylvania. She served as Articles Editor of the *New York University Law Review*. She began her professional career with a judicial clerkship in a federal court in New York City, and later practiced with a large law firm in that city, until she joined the Duke law faculty in 1975. She has also taught at the University of Texas. She is the editor of a 1979 book on corporate governance. Her other writing is on the fields of corporate law and securities regulation.



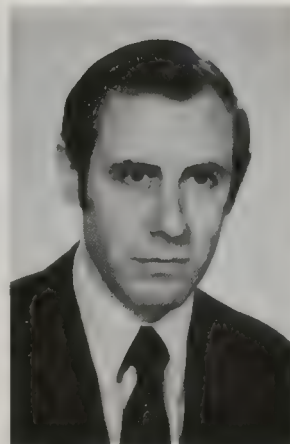
Robinson O. Everett, A.B., J.D., LL.M., *Professor of Law*

A.B. 1947, LL.B. 1950, Harvard University, LL.M. 1959, Duke University. Professor Everett is a native of Durham, North Carolina. He served for several years as a Legal Officer in the Air Force and as a Commissioner of the United States Court of Military Appeals. He returned to Durham to enter a general practice, which he continued until 1980 when he ascended to the bench of the United States Court of Military Appeals as Chief Judge. From 1961 to 1964, he served as Counsel to the Subcommittee on Constitutional Rights of the United States Senate Judiciary Committee. He has been active in the affairs of the North Carolina Bar and of the community of Durham. He has long served as a Commissioner on Uniform State Laws and has been active in various law reform efforts. He has published on many legal topics, most notably military justice and local government law. His teaching at Duke began as early as 1950. He was elected to regular membership in the faculty in 1967.



Peter G. Fish, A.B., A.M., Ph.D., *Professor of Political Science and Law*

Peter G. Fish received his A.B. from Princeton University and his A.M. and Ph.D. from the Johns Hopkins University where he studied under the late Carl Brent Swisher. He was a Guest Scholar at the Brookings Institution before teaching courses on American constitutional law and development as well as on the judicial process at Oberlin College, Princeton University, and, since 1969, in the Department of Political Science at Duke. Professor Fish is author of *The Politics of Federal Judicial Administration* (1973) and of numerous articles. His present research relates to the political-judicial career of John J. Parker, Judge of the United States Court of Appeals for the Fourth Circuit, 1925-58. From 1977-79 Professor Fish served as a lay member of the United States Circuit Judge Nomination Commission, Panel for the Fourth Circuit.



Joel L. Fleishman, A.B., J.D., M.A., LL.M., *Professor of Law and Public Policy Sciences*

A.B. 1955, J.D. 1959, M.A. (Drama) 1959, University of North Carolina; LL.M. 1960, Yale University. Professor Fleishman is a native of Fayetteville, North Carolina. He began his career in 1960 as Assistant to the Director of the Walter E. Meyer Research Institute of Law at Yale. From 1961 to 1965, he served as Legal Assistant to the Governor of North Carolina. He then returned to Yale, first as Director of the Yale Summer High School, and then as Associate Provost for Urban Studies and Programs. In 1969, he became Associate Chairman of the Center for the Study of the City and Its Environment and Associate Director of the Institute of Social Science at Yale. In 1971, he came to Duke as a member of the law faculty and as Director of the Institute of Policy Sciences and Public Affairs. He is also Vice-Chancellor of the University. His principal writings deal with legal regulation and financing of political activities; his current work is on political ethics, postal policy, and telecommunications policy generally. He will remain on leave of absence for the academic year 1981-82, devoting himself to University administration.



C. Allen Foster, B.A., B.A. (Juris.), M.A. (Juris.), J.D., *Lecturer in Law*
B.A. 1963, Princeton University; B.A. (Juris.) 1965, M.A. (Juris.) 1971 Oxford University; J.D. 1967, Harvard University. Mr. Foster has considerable experience in the areas of construction law, labor law and arbitration, employment discrimination, and litigation. After graduating from Princeton, where he took his degree in history *summa cum laude*, he accepted a Fulbright scholarship to attend Brasenose College, Oxford University, which awarded him his first degree in law (with first-class honors) in 1965. After completing the requirements for the J.D. at Harvard Law School, he began private practice in Greensboro, North Carolina. He has since served as counsel and consultant in a variety of industrial and arbitration contexts. He is a partner in a Greensboro law firm. Mr. Foster brings his wide experience to the teaching of the Law School's course in trial practice.



Pamela Gann, B.A., J.D., *Professor of Law*

B.A. 1970, University of North Carolina; J.D. 1973, Duke University. A native of Monroe, North Carolina, Professor Gann was Articles Editor of the *Duke Law Journal*. She practiced with private firms in Atlanta and Charlotte before returning to Duke to teach in 1975. She has also taught at Washington University, the University of Michigan, and the University of Virginia. She is the coeditor of a 1979 casebook on corporate taxation.



Claire M. Germain, B.A., LL.B., M.C.L., M.L.L., *Lecturer in Comparative Law and Legal Research*

B.A. 1971, LL.B. 1974, University of Paris; M.C.L. 1975, Louisiana State University; M.L.L. 1977, University of Denver. A native of France, Ms. Germain has served as a research associate in French and German law at Louisiana State University, a research assistant at the Organization for Economic Cooperation and Development in Paris, and as a guest librarian and research fellow at the Max Planck Institute for Foreign and Private International Law in Hamburg, West Germany. At Duke since 1977, she has served as senior reference librarian, as academic adviser to foreign students, and as instructor in legal research.



Martin P. Golding, B.A., M.A., Ph.D., *Professor of Philosophy and Law*

B.A. 1949, M.A. 1952, University of California, Los Angeles; Ph.D. 1959, Columbia University. A native of New York City, Professor Golding taught at Columbia University from 1957 to 1970 and at the City University of New York from 1970 to 1976 before coming to Duke in 1976 as Professor and Chairman of the Department of Philosophy. He has also taught at New York University, Bar-Ilan University in Israel, and the Universities of California (both Berkeley and Los Angeles), Southern California, and Colorado. His writing includes two books, *The Nature of Law* (1966) and *Philosophy of Law* (1975), and numerous articles on jurisprudence and ethics.



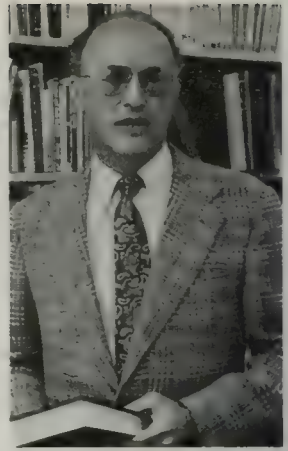
Bernhard Grossfeld, LL.B., Dr. jur., LL.M., *Habilitat. Visiting Martha G. Price Scholar*

LL.B., Dr. jur. Universität Münster; LL.M. Yale University; Habilitat. Universität Tübingen. Dr. Grossfeld is a member of the law faculty of the University of Münster, where he has taught civil, commercial, and comparative law since 1973. Before this he was Professor of Law from 1966 to 1973 at the University of Göttingen. His international teaching experience includes three years (1969, 1971, 1972) as Visiting Lecturer at the University of Michigan and one year (1979) as a Visiting Fellow at Cambridge University. Dr. Grossfeld has published widely on various aspects of commercial and company law (including legal issues of an international nature).



Clark C. Havighurst, A.B., J.D., *Professor of Law*

A.B. 1955, Princeton University; J.D. 1958, Northwestern University. Professor Havighurst is a native of Evanston, Illinois. He spent two years in military service, one year as a Research Associate at Duke, and three years in private law practice in New York City before beginning his teaching career at Duke in 1964. Professor Havighurst was for five years the editor of *Law and Contemporary Problems*. In addition to teaching antitrust law and the law of regulated industries, he has a special academic interest in the regulation of the health care industry and in national health policy. His book, *Deregulating the Health Care Industry*, was published in 1982. Professor Havighurst is Director of the Law School's Program on Legal Issues in Health Care, and he has served as Scholar in Residence at, and is a member of, the Institute of Medicine of the National Academy of Sciences. He has also been a resident consultant to the Federal Trade Commission in Washington, D.C., and is an Adjunct Scholar in Law and Health Policy of the American Enterprise Institute. He has also taught at Northwestern and Stanford.



Donald L. Horowitz, A.B., LL.B., LL.M., M.A., Ph.D., *Professor of Law*

A.B. 1959, LL.B. 1961, Syracuse University; LL.M. 1962, M.A. 1965, Ph.D. 1967, Harvard University. A native of New York City, Professor Horowitz began his professional career as a judicial clerk in the United States District Court. With the exception of a stint as a government lawyer, he has primarily been engaged in research at such institutions as the Harvard University Center for International Affairs, the Council on Foreign Relations, the Brookings Institution, and the Smithsonian Institution. A recipient of a grant from the Guggenheim Foundation for work in ethnic relations, Professor Horowitz has published several books. Among them are *The Jurocracy*, a book about government lawyers, and *The Courts and Social Policy*, for which he was awarded the Louis Brownlow Prize of the National Academy of Public Administration in 1977.



F. William Hutchinson, A.B., J.D., *Distinguished Advocate in Residence*

A.B. 1939, Amherst College; J.D. 1948, University of Michigan. A native of Detroit, Mr. Hutchinson taught secondary school for two years in Pennsylvania and spent four years in service between college and law school. His thirty years of private practice in Detroit and Grand Rapids, Michigan, were devoted primarily to the litigation of civil and criminal matters, largely in the federal courts. He joined the Duke law faculty in 1980, teaching courses in trial practice, negotiation, and professional responsibility. He also serves as Placement Counselor.



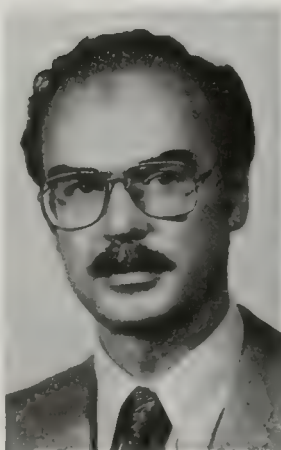
David L. Lange, B.S., LL.B., *Professor of Law*

B.S. 1960, LL.B. 1964, University of Illinois. Professor Lange practiced law with a Chicago firm that included media enterprises among its clients. He has also had substantial professional experience in radio, television, cable, and motion picture production, and is a member of the Governing Committee of the ABA Forum on the Entertainment and Sports Industries. He joined the Duke law faculty in 1971, where he has since served as General Editor of *Law and Contemporary Problems* and as Chairman of the Center for the Study of Communications Policy. His principal academic interests lie in the areas of entertainment and communications law as well as torts and the First Amendment.



Lex K. Larson, B.A., J.D., *Lecturer in Law*

B.A. 1962, Haverford College; J.D. 1965, Harvard University. Extensively experienced in administrative law and employment discrimination litigation, Mr. Larson currently practices in Durham and is chief executive officer of an employment law research firm. Prior to coming to Durham, he was in private practice in Washington, D.C. for fifteen years. He has wide expertise in scientific and technical fields, and has repeatedly served as counsel for major utilities before the Nuclear Regulatory Commission and its predecessor, the Atomic Energy Commission.



Richard C. Maxwell, B.S.L., LL.B., *Harry R. Chadwick, Sr., Professor of Law*

B.S.L. 1941, LL.B. 1947, University of Minnesota. Professor Maxwell is a native of Minnesota and served four years with the Navy. On leaving law school, he accepted a faculty appointment at the University of North Dakota, moving on to the University of Texas in 1949 and to the University of California at Los Angeles in 1953. In 1952-53, he was an attorney with Amerada Petroleum Corporation. He was the Dean at the University of California at Los Angeles from 1959 to 1969, and President of the Association of American Law Schools in 1972. In 1979, he joined the Duke law faculty. He has taught at many law schools, including Queen's University in Belfast, Columbia University, and the Universities of Minnesota and Singapore. He is an editor of the *Oil and Gas Reporter* and served as a member of the Committee on Gas Production Opportunities of the National Resources Council. He has published books on social legislation, secured transactions, and mineral law.



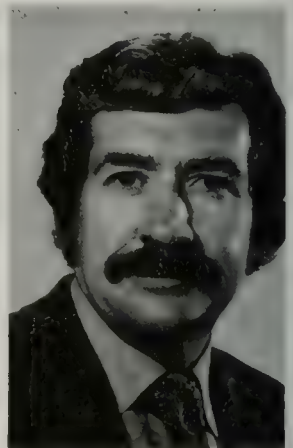
Ronald Clive McCallum, B. Juris., LL.B., LL.M., *Martha G. Price*
Visiting Lecturer

B. Juris. 1970, LL.B. 1972, Monash University; LL.M. 1974, Queen's University (Canada). Since completing graduate work at Queen's University, Mr. McCallum has been on the Faculty of Law, Monash University. In addition he has served as principal executive officer of the Australian Industrial Relations Bureau (1979-80). An expert in the labor law of his native Australia, Mr. McCallum has published extensively on subjects in industrial and employment law. His current research deals with legal aspects of trade unionism.



Eugene J. McDonald, B.S., J.D., LL.M., *Senior Lecturer in Law*

B.S. 1954, J.D. 1957, University of San Francisco; LL.M. 1958, Georgetown University. Mr. McDonald is from San Francisco, California. He practiced law privately in that city for five years with the firm of Brobeck, Phleger & Harrison before taking the presidency of the Human Resources Development Corporation in Washington, D.C., in 1965. In 1968, he became Vice-President and General Counsel of the parent International Textbook Company, and in 1972, he was promoted to Chief Executive of its International Division, located in London. In 1976, he attended the Advanced Management Program at the Harvard School of Business Administration. In 1977, he came to Duke as Vice-President for Governmental Relations and General Counsel, serving also as an adjunct member of the law faculty. He was previously Professor of Law on the Georgetown University law faculty and has also taught at the Universities of Virginia and San Francisco.



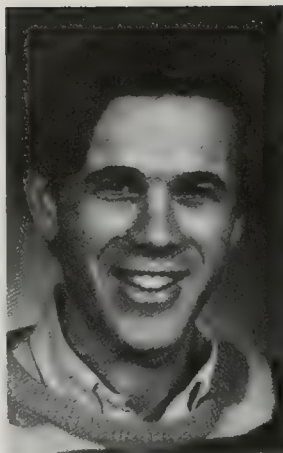
Michael Mirande, B.A., J.D., *Lecturer in Law*

B.A. (1975, Boston College), J.D. (1980, Duke University). After an outstanding record of achievement at Duke University School of Law, Mr. Mirande began his professional career in 1980 as clerk for the Honorable Gerald Tjoflat, United States Court of Appeals for the Fifth (now Eleventh) Circuit. This was followed in 1981 by an appointment as Visiting Instructor of Administrative Law, Department of Political Science, Duke University. Since December 1981 Mr. Mirande has been an associate in a Raleigh law firm. Mr. Mirande will be teaching courses in the area of legal ethics.



Jonathan K. Ocko, B.A., M.A., M.Phil., Ph.D., *Lecturer in Law*

B.A. 1966, Trinity College; M.Phil. 1971, M.A. 1972, Ph.D. 1975, Yale University. A native of New York City, Professor Ocko taught at Clark University and Wellesley College before joining the faculty of North Carolina State University in 1977. During the academic year 1978-79, he studied law at Harvard University, where he also taught Asian law. His principal scholarly efforts have been in the field of Chinese history and law.



J. Francis Paschal, A.B., LL.B., A.M., Ph.D., *Professor of Law*

A.B. 1935, LL.B. 1938, Wake Forest College; A.M. 1942, Ph.D. 1948, Princeton University. A native of Wake Forest, North Carolina, Professor Paschal taught law there briefly following his graduation. In 1940, he commenced the study of politics, which was interrupted for four years of service in the Navy. After completing his doctorate in politics following the war, he returned to law as the Research Director for the North Carolina Commission for the Improvement of the Administration of Justice. From 1949 to 1954, he practiced law with a private firm in Raleigh. He joined the Duke law faculty in 1954. He has since served a term as Chairman of the North Carolina Civil Rights Commission and on the North Carolina General Statutes Commission. He has been Chairman of the University's Academic Council. He has written on a variety of legal subjects, including a full-length biography of Justice George Sutherland of the United States Supreme Court.



David W. Peterson, B.S., M.S., Ph.D., *Senior Lecturer in Law and Professor of Business Administration*

B.S. 1962, University of Wisconsin; M.S. 1963, Ph.D. 1965, Stanford University. Professor Peterson was born in New York and grew up in Wisconsin. His formal education was in electrical engineering, upon completion of which he served for two years as an officer in the Signal Corps. Following this he joined the Graduate School of Management at Northwestern University, teaching subjects related to mathematical and computer modeling. After a year as a research fellow at the International Institute of Management in Berlin, he joined the Duke Graduate School of Business faculty in 1973. Much of his research has dealt with the theory and application of mathematical modeling in management. His most recent work has been concerned with the detection of discriminatory employment practices, one result of which is his coauthored book, *Use of Statistics in Equal Employment Opportunity Litigation*. He has been a consultant to numerous law firms, corporations, and government agencies on matters pertaining to employment discrimination.



J. Dickson Phillips, Jr., B.S. J.D., Senior Lecturer

B.S. 1943, Davidson College; J.D. 1948, University of North Carolina. Mr. Phillips' distinguished legal career began at the University of North Carolina School of Law, where he was Associate Editor of the *North Carolina Review*. After graduating he served as Assistant Director of the University of North Carolina Institute of Government (1948-49) and then entered private practice for ten years. He returned to the University of North Carolina in 1960, assuming the posts of Lecturer and then Associate Professor of Law (1960-1964). In 1964 he was appointed Professor of Law (1964-1978) and served as Dean of the Law School from 1964-1974. In 1978 he was appointed Judge, United States Court of Appeals for the Fourth Circuit. He has long been active in the governance of the North Carolina Bar Association, and has been a member of the North Carolina Wildlife Resources Commission. Judge Phillips teaches in the area of civil procedure.



William P. Pinna, B.S., J.D., Senior Lecturer in Law

B.S. 1966, De Paul University; J.D. 1968, Duke University. Mr. Pinna is a native of Chicago, Illinois. He is a Certified Public Accountant and was employed by Arthur Anderson & Company for four years. Since graduation from law school, he has practiced in Durham and Raleigh, concentrating in the areas of estate planning and tax law. He has also taught accounting and taxation at North Carolina State University since 1968, and has several times been named an outstanding teacher in that institution.



Walter F. Pratt, Jr., B.A., D.Phil., J.D., Associate Professor of Law

B.A. 1968, Vanderbilt University; D.Phil. (Politics) 1974, Oxford University; J.D. 1977, Yale University. Professor Pratt is a native of Mississippi. He served for three years with the Army before his term as a Rhodes Scholar. He served as Articles Editor of the *Yale Law Journal* while completing work on his book, *Privacy in Britain*. He commenced his career in law with one judicial clerkship in the United States Court of Appeals, going on to another in the Supreme Court of the United States. He joined the Duke law faculty in 1979. His academic interests lie in the fields of legal history and contracts.



A. Kenneth Pye, B.A., J.D., LL.M., LL.D., L.H.D., *Professor of Law*
 B.A. 1951, University of Buffalo; J.D. 1953, LL.M. 1955, LL.D. 1978, Georgetown University; L.H.D. 1979, Belmont Abbey College. Professor Pye is a native of New York. Following graduation from law school, he entered military service, after which he joined the law faculty of Georgetown University, where he served as Associate Dean from 1961 to 1966. He joined the Duke law faculty in 1966. He has taught at a number of other universities, including Johann Wolfgang Goethe University in Germany, Banares Hindu University in India, and Monash University in Australia. He became Dean of the Law School in 1968, serving for two years before becoming Chancellor of the University in 1970. He left the Office of Chancellor in 1971 to serve for three years as University Counsel, returned to the Law School as Dean in 1978, and again served as Chancellor from 1976 to 1982. He served as President of the Association of American Law Schools in 1977. He is known for his scholarship chiefly in the field of criminal procedure.



William Arneill Reppy, Jr., A.B., J.D., *Professor of Law*

A.B. 1963, J.D. 1966, Stanford University. Professor Reppy is a native of Oxnard, California. He commenced his professional career with two judicial clerkships—one in the Supreme Court of California, followed by another in the Supreme Court of the United States. He then practiced law for three years with a private firm in Los Angeles, until joining the Duke law faculty in 1971. He has also taught at the Universities of California and Michigan. He is a member of the Condominium Statutes Drafting Committee of the North Carolina Statutes Commission. His principal scholarly work is in the areas of marital property rights and conflict of laws.



Horace B. Robertson, Jr., B.S., J.D., M.S., *Professor of Law*

B.S. 1945, U.S. Naval Academy; J.D. 1953, Georgetown University; M.S. 1968, George Washington University. Professor Robertson is a native of Kannapolis, North Carolina. After five years as a line officer in the Navy, he was assigned to law study. After achieving a distinguished record, including service as Editor-in-Chief of the *Georgetown Law Journal*, he returned to active duty as a Judge Advocate, rising ultimately to be the highest ranking legal officer in the Navy in 1975. While on active duty, he served as a member of the United States Delegation to the United Nations Law of the Sea Conference in 1958 and to the United Nations Seabeds Committee's Preparatory Session in 1973. He joined the Duke law faculty in 1976. His primary teaching interests are in the fields of international law and torts.



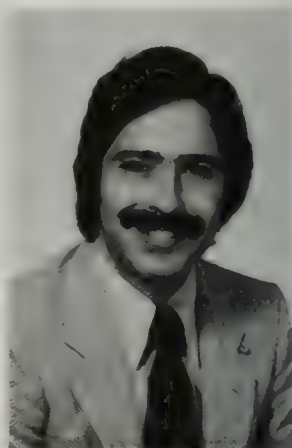
Thomas D. Rowe, Jr., B.A., M.Phil., J.D., Professor of Law

B.A. 1964, Yale University; M.Phil. 1967, Oxford University; J.D. 1970, Harvard University. A native of Ann Arbor, Michigan, Professor Rowe achieved preeminent academic records both as an undergraduate and as a law student; in the interim, he was also a Rhodes Scholar. He commenced his professional career as a law clerk in the Supreme Court of the United States. He served for one and one-half years as Assistant Counsel to a Subcommittee of the United States Senate and then practiced law with a private firm in Washington, D.C. He joined the Duke law faculty in 1975 and became Associate Dean in 1981. He has also taught at Georgetown University. He has written in the fields of constitutional law and civil procedure.



David Rudolf, A.B., J.D., Lecturer in Law

As an undergraduate Mr. Rudolf attended the London School of Economics and Rutgers University, where he was James McNall Burns Scholar in Political Science. He graduated *summa cum laude* in 1971, and then attended New York University School of Law. There he was Articles Editor of the *Annual Survey of American Law* and a member of the Order of the Coif. He received his J.D. *cum laude* in 1974. After graduation from law school he worked as a trial attorney for the Legal Aid Society of New York City, first with the Criminal Defense Division in state court and then with the Federal Defender Unit in the Eastern District of New York. From 1978 to 1982, Mr. Rudolf was on the faculty at the University of North Carolina School of Law, where he directed the Criminal Law Clinic. He is currently a partner in a Durham law firm.



Joyce S. Rutledge, B.A., M.A., Ph.D., J.D., Lecturer in Law

B.A. 1967, Goucher College; M.A. 1969, Ph.D. 1972, the Johns Hopkins University; J.D. 1981, Duke University. Ms. Rutledge was the recipient of several major awards and honors in the field of German literature before she undertook her legal training. While at Duke she was a member of the editorial board of *Law and Contemporary Problems*, and held several research assistantships. During 1981-82 she served as clerk for the Honorable J. Dickson Phillips, Jr., Judge of the U.S. Court of Appeals for the Fourth Circuit. Ms. Rutledge will offer Legal Writing in the academic year 1982-83. She also serves as General Editor of *Law and Contemporary Problems*.



Richard L. Schmalbeck, A.B., J.D., *Associate Professor of Law*

A.B. 1970, J.D. 1975, University of Chicago. Professor Schmalbeck is a native of Chicago. He began his professional career with a year of private practice in Columbus, Ohio, where he concentrated in the areas of tax, real estate, and commercial law. In 1976, he moved to Washington, D.C., to accept a position with the Office of Management and Budget, after which he returned to private practice in that city in 1977 with a firm specializing in taxation. He began his teaching career at Duke in 1980, where his focus is on the fields of taxation and law and economics.



Christopher H. Schroeder, B.A., M.Div., J.D., *Associate Professor of Law*

B.A. 1968, Princeton University; M.Div. 1971, Yale University; J.D. 1974, University of California. Professor Schroeder is a native of Saginaw, Michigan. He served as Editor-in-Chief of the *California Law Review*. He practiced law with a San Francisco firm for two years before organizing a smaller firm in that city, where he engaged in environmental litigation in addition to a general litigation practice. He served as Director of the Energy and Environment Project of the Earl Warren Institute of the University of California and taught in the Energy and Resources Program and in the Law School of that university. He joined the Duke law faculty in 1979. He is also a Research Associate in the School of Forestry and Environmental Studies.



Cynia B. Shimm, A.B., M.D., *Senior Lecturer in Law*

A.B. 1945, Cornell University; M.D. 1950, Yale University. Dr. Shimm is a native of New York City. Following postgraduate medical training in pathology and internal medicine, followed by a stint of general practice, she pursued the study of psychiatry and psychoanalysis, in which specialties she has been certified. She has offered courses in psychiatry and law at Duke since 1974. She is Chairman of the Department of Psychiatry at Durham County General Hospital and is also a Clinical Professor of Psychiatry at the Duke University Medical Center.



Melvin G. Shimm, A.B., LL.B., Professor of Law

A.B. 1947, Columbia University; LL.B. 1950, Yale University. Professor Shimm is a native of New York City and served three years with the Army. He practiced law privately in New York City from 1950 to 1951 and as an attorney for the Wage Stabilization Board in Washington, D.C., from 1951 to 1952 before entering law teaching as a Bigelow Fellow at the University of Chicago from 1952 to 1953. He has been at Duke since 1953, serving as Associate Dean since 1978. He has also taught at New York University and the Universities of Southern California, North Carolina, Michigan, and Texas. He has been heavily invested in the Law School's publication program, editing *Law and Contemporary Problems*, the *Journal of Legal Education*, and the American sections of the *Business Law Review* and the *Journal of Business Law*; and organizing and serving first as Faculty Editor and then as Faculty Adviser of the *Duke Law Journal*. He has also served as Senior Consultant with the Brookings Institution and as Director of the Association of American Law Schools' Orientation Program in American Law. His teaching interests lie primarily in the commercial law areas.



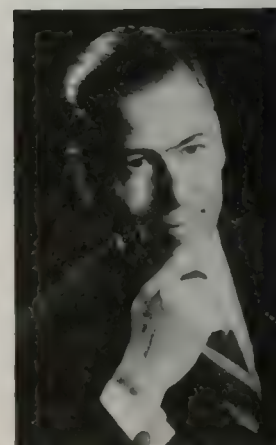
Allen G. Siegel, B.B.A., LL.B., Senior Lecturer in Law

B.B.A. 1958, College of the City of New York; LL.B. 1960, Duke University. A native of Chicago, Mr. Siegel commenced his legal career in private practice in Jacksonville, Florida, after which he served as an attorney for the National Labor Relations Board in its regional offices in Albuquerque and Atlanta. In 1964, he re-entered private practice with a large law firm in Washington, D.C., where he continues to devote himself to labor relations, with emphasis on collective bargaining in both the public and private sectors.



Bertel M. Sparks, B.S., LL.B., LL.M., S.J.D., Professor of Law

B.S. 1938, Eastern Kentucky University; LL.B. 1948, University of Kentucky; LL.M. 1949, S.J.D. 1955, University of Michigan. Professor Sparks has been, successively, Editor-in-Chief of the *Kentucky Law Journal*, 1948; Cook Fellow, University of Michigan, 1948-49; Special Agent, U.S. Army Counterintelligence Corps, 1941-45; Instructor in Law, 1949-50, Assistant Professor of Law, 1950-52, Associate Professor of Law, 1952-54, and Professor of Law, 1954-67, New York University; Visiting Professor of Law, University of Michigan, summer, 1956; and Visiting Professor of Law, University of Kentucky, summer, 1957. He came to Duke as a Visiting Professor of Law in 1966, and has been Professor of Law since 1967. He has also been a member of the Drafting Committee of the North Carolina General Statutes Commission since 1967. His writing includes two books, *Contracts to Make Wills* (1956) and *Cases on Trusts and Estates* (1965), and numerous articles in the fields of both law and economics.



Gwynn T. Swinson, B.A., J.D., *Bradway Teaching Fellow*

B.A. 1973, Antioch College; J.D. 1976, Antioch School of Law. Ms. Swinson has had extensive experience in representing the interests of the federal government in civil matters. Appointed Assistant Branch Director, Commercial Litigation Branch, Civil Division, U.S. Department of Justice in 1980, she previously served as trial attorney for the department's Commercial Litigation and Federal Programs Branches. Ms. Swinson is a member of the Board of Governors of the Antioch School of Law. She will be teaching in the areas of criminal and civil trial practice.



William W. Van Alstyne, B.A., J.D., LL.D., *William R. Perkins and Thomas C. Perkins Professor of Law*

B.A. 1955, University of Southern California; J.D. 1958, Stanford University; LL.D. (Hon.) 1976, Wake Forest University; LL.D. (Hon.) 1979, College of William and Mary. Professor Van Alstyne is a native of Chico, California. He was professionally employed first by the California Department of Justice and then by the United States Department of Justice. He began his teaching career at Ohio State University in 1959, coming to Duke in 1965. He has taught at a number of other law schools, including Stanford University and the University of California at Berkeley and at Los Angeles, and at the Universities of Illinois and Pennsylvania. He studied at the Hague Academy of International Law in 1961 and was a Senior Fellow at Yale in 1964-65. He has long been active in civil rights and in the affairs of the American Civil Liberties Union. He has been especially active in the American Association of University Professors, of which he served as President in 1975-76. He is widely known for his writing and his speaking on the subject of constitutional law.



John C. Weistart, A.B., J.D., LL.D., *Professor of Law*

A.B. 1965, Illinois Wesleyan University; J.D. 1968, Duke University; LL.D. (Hon.) 1981, Illinois Wesleyan University. Professor Weistart was Editor-in-Chief of the *Duke Law Journal*. He served for a year as a judicial clerk on the Supreme Court of Illinois before joining the Duke law faculty in 1969. He served for three years as Editor of *Law and Contemporary Problems* and as American Editor of the *Journal of Business Law*, and is a member of the American Law Institute. He has also taught at the Universities of California at Los Angeles, Virginia, Harvard, and Michigan. He is known for his writing in the field of commercial law, and has served as a consultant to the Federal Trade Commission and the Federal Reserve Board.





Emeriti

John S. Bradway, A.B., A.M., LL.B., LL.D., *Professor of Law Emeritus*

A.B. 1911, A.M. 1915, LL.D. 1957, Haverford College; LL.B. 1914, University of Pennsylvania. General Practice, 1914–29; Legal Aid Society of Philadelphia, 1914–20; Chief Counsel, Philadelphia Legal Aid Bureau, 1920–22; Secretary, National Association of Legal Aid Organizations, 1923–40, President, 1940–42; Visiting Professor of Law and Director of the Legal Aid Clinic, University of Southern California, summer, 1928; Professor of Law and Director of the Legal Aid Clinic, University of Southern California, 1929–31; Vice-President, North Carolina Bar Association, 1945–46; Visiting Professor, University of North Carolina School of Social Work, 1949–59. Professor of Law and Director of the Legal Aid Clinic, Duke University, 1931–59; Professor of Law Emeritus since 1959.

Edwin C. Bryson, LL.B., *Professor of Law Emeritus*

University of North Carolina, 1922–25; Duke University, 1932–33; LL.B. 1937, University of Oregon. General Practice, 1927–30. Assistant to Duke University Legal Aid Clinic, 1931–47. Duke University Counsel, 1945–71; Associate Professor of Law, 1947–54; Professor of Law, 1954–71; Professor of Law Emeritus, since 1971.

Kazimierz Grzybowski, M.L.L., D.L.L., S.J.D., *Professor of Law Emeritus*

M.L.L., 1931, Doctor of Law and Political Science, 1934, University of Lwow; S.J.D., 1933, Harvard University. Associate Professor School of Law and Graduate School of Diplomacy, University of Lwow, 1936–39; Judge of the District Court of Lwow; Military Service, 1939–48; Director, Polish Information Service, Middle East, Jerusalem, 1942–45; Editor, Law Library, Library of Congress, Washington, D.C., 1951–60; Consultant, Social Science Division, Rand Corporation, Santa Monica, California, 1960–62; Visiting Professor, Michigan Law School, 1961–62; Visiting Professor, Yale Law School, 1962–63; Visiting Professor, Leiden University, Leiden, The Netherlands, 1963–64; Visiting Professor, Strasbourg University, Strasbourg, France, 1967. Professor of Law and Senior Research Associate, Rule of Law Research Center, Duke University School of Law, since 1965.

Arthur Larson, A.B., B.A., M.A., B.C.L., J.D., D.C.L., LL.D., L.H.D., *James B. Duke Professor of Law Emeritus*

A.D. 1931, LL.D. 1953, Augustana College; B.A. 1935, M.A. 1938, B.C.L. 1957, D.C.L. 1957, Oxford University. General Practice 1935–39; Assistant Professor of Law, University of Tennessee 1939–41; Division Counsel, Office of Price Administration, 1941–44; Chief, Scandinavian Branch, Foreign Economic Administration 1944–45; Associate Professor of Law, Cornell University, 1945–48; Professor of Law, 1948–53; Dean and Professor of Law, University of Pittsburgh, 1953–54; Undersecretary, United States Department of Labor, 1954–56; Director, United States Information Agency, 1956–57; Special Assistant to the President, 1957–58. Professor of Law and Director of the Rule of Law Research Center, Duke University, 1958–80; James B. Duke Professor of Law Emeritus since 1980.

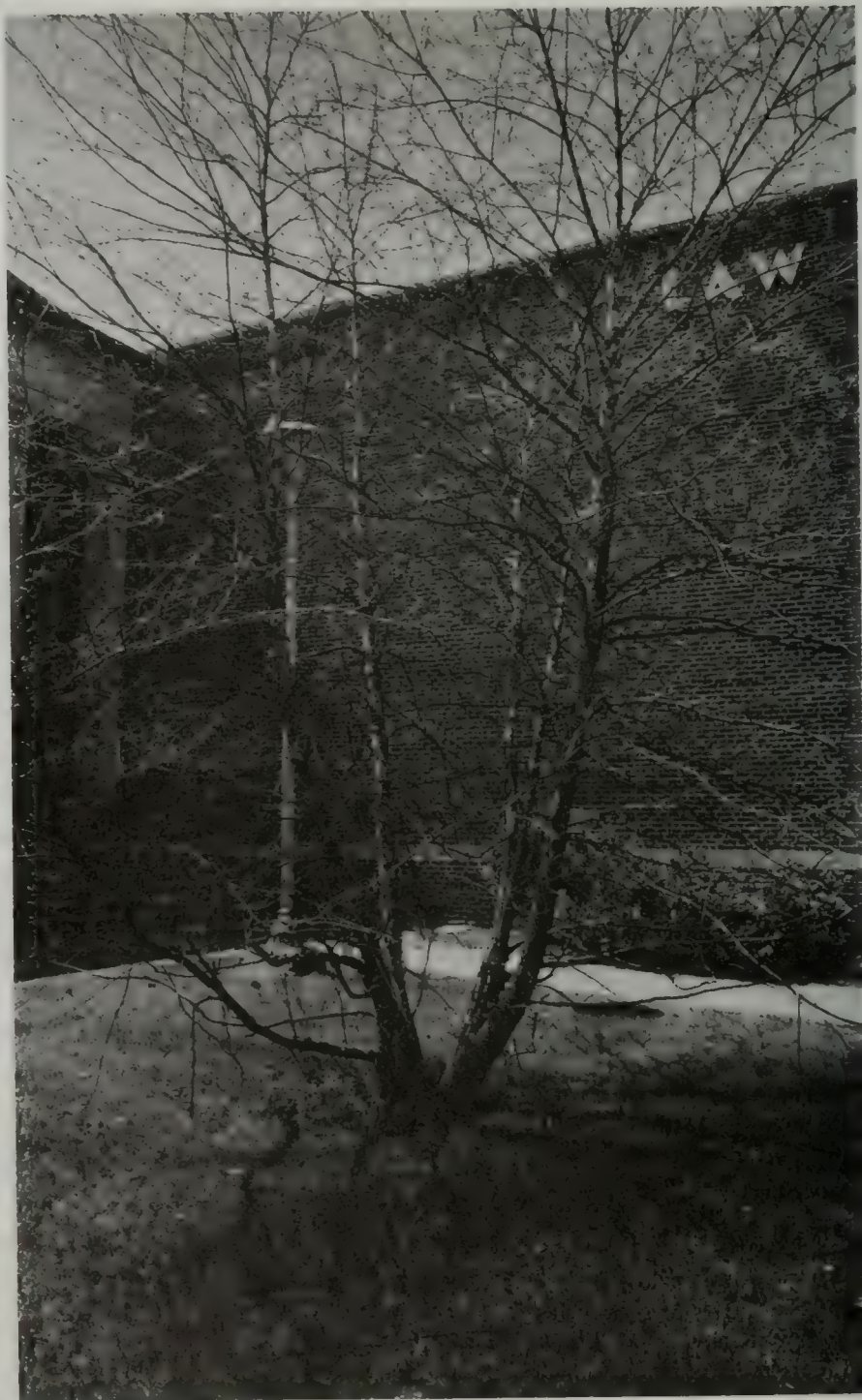
Elvin R. Latty, B.S., J.D., J.Sc.D., *William R. Perkins Professor of Law Emeritus and Dean Emeritus*

B.S. 1923, Bowdoin College; J.D. 1930, University of Michigan; J.Sc.D. 1936, Columbia University. Instructor in Romance Languages, University of Vermont, 1923–27; General Practice, 1930–33; Special Fellow, Columbia University, 1933–34; Associate Professor of Law, University of Kansas, 1934–35; Professor of Law, University of Missouri, 1935–37; Visiting Professor of Law, George Washington University, summer, 1937, Stanford University, summer, 1938, University of North Carolina, summer, 1942, 1947, 1949, 1956, University of Texas, summer, 1951, University of Puerto Rico, spring, 1968, University of Florida, summer, 1970; Fulbright Lecturer, University of Pavia, Italy, 1954; Special Assistant to the American Ambassador, Caracas, 1942–43; Acting Assistant Chief, Foreign Funds Control Division, United States Department of State, 1943. Professor of Law, Duke University, 1937–73; Dean, 1958–66; William R. Perkins Professor of Law Emeritus and Dean Emeritus, since 1973.

Charles H. Livengood, Jr., A.B., J.D., *Professor of Law Emeritus*

A.B., 1931, Duke University; J.D. 1934, Harvard University. General practice, 1934–40, 1945–48; Regional Attorney for the Seventh Region, Wage and Hour Division, U.S. Department of Labor, 1940–41; Chief of the Wage-Hour Section, Office of the Solicitor of Labor, 1941–42; Visiting Professor of Law, University of North Carolina, summer, 1948, 1967–68, George Washington University, summer, 1949, 1956; Fulbright Lecturer, University of Sydney, Australia, 1958–59; member, American Law Institute, since 1947; Consultant, U.S. Senate Subcommittee on Labor-Management Relations, 1950; Associate Editor, Journal of Legal Education, 1951–52; public member, Wage Stabilization Board, Region III, 1952–53; member, National Academy of Arbitrators, since 1953; member, North Carolina General Statutes Commission, since 1966, Chairman, since 1970; Secretary, Section of Labor Relations Law, American Bar Association, 1967–68; Lecturer in Law, Duke University School of Law, 1946–48; Associate Professor of Law, 1948–51; Professor of Law, since 1951.

Admissions



General Information

The admissions process for the typical law school applicant is at best onerous. It occasionally creates severe anxiety. The Law School is aware of the difficulties and uncertainties faced by applicants. Consequently, it is our goal to treat each applicant with fairness and candor. The following description of the admissions process at Duke is presented with that object in mind.

Admissions Standards

At Duke, as at many law schools, the three most important admissions criteria, in the order of their importance, are the Law School Admission Test (LSAT) score, the undergraduate grade point average (GPA), and the undergraduate institution attended. Every two years validity studies are conducted by the Educational Testing Service to review the predictive value of these criteria at Duke Law School. More specific statistical studies concerning a variety of admissions topics are conducted periodically in the admissions office at Duke.

Although reliance on purely academic criteria is appropriate in making some decisions, particularly those involving candidates either clearly admissible or clearly inadmissible, the majority of applications fall between these extremes. For these applications, Duke will give careful consideration to more subjective factors such as proven capacity for leadership, dedication to community service, excellence in a particular field, motivation, graduate study in another discipline, work experience, extracurricular activities, and personal and character information provided in letters of recommendation. Also, in interpreting the applicant's GPA, it is often necessary to make judgments regarding the strength of the course of study pursued and the significance of class rank or the progression of grades.

Although no quotas of any kind are employed in the admissions process, the Law School does make a conscious effort to achieve a broad diversity in each entering class in terms of general background, geography, and undergraduate institutions represented. An individual student may be selected not only for his or her marked potential for academic success, but also because application materials indicate that he or she can bring to Duke unique personal qualities or talents that will enhance the overall character of the entering class.

Duke has a faculty-initiated affirmative action plan for minority admissions, and special care is taken in evaluating applications from members of minority groups who traditionally have not been well represented in the legal profession. On occasion, special consideration is given to children of alumni of Duke University who are qualified to do acceptable work. Female applicants are

evaluated according to the same standards as male applicants, and applications from women are encouraged.

An applicant who has been graduated from an accredited college, or one who will have been graduated from an accredited college during his or her course of study at the Law School, may be admitted as a candidate for the degree of Doctor of Law (J.D.). An applicant who has completed three-fourths of the coursework required for graduation from an accredited college and whose academic record has been of outstandingly superior quality may be admitted as a candidate for the degree of Bachelor of Laws (LL.B.).

For both more detailed and more general information on law school admission, prospective applicants are advised to consult the most current issue of the *Prelaw Handbook*, published annually in October by the Law School Admission Council and the Association of American Law Schools. It includes material on the law and lawyers, the study of law, prelaw preparation, applying to law school, and a complete Law School Admission Test, together with individual information on most American law schools. The *Prelaw Handbook* may be obtained at college bookstores or ordered from the Educational Testing Service, Box 40, Newtown, Pennsylvania 18940.

Admission Procedures

The Admissions Committee receives its authority by delegation from the law faculty and reports to the law faculty. The committee, composed of four law professors and three law students, decides policy questions arising in the admissions process. Student members of the committee, however, do not review individual files. All individual applications are reviewed by the Senior Assistant Dean.

Each applicant is responsible for the collection and submission, together with the school's application for admission, the following documents:

1. Completed application form obtained from the Office of Admissions, Duke Law School, Durham, North Carolina 27706. A recent photograph must be attached to the application.
2. The Law School Application Matching Form which is issued to each applicant taking the Law School Admission Test.
3. Three completed reference forms, one of which should be written by an appropriate academic dean at the undergraduate school last attended. A statement of the applicant's rank in class will be helpful. It is suggested that the other reference forms be written by professors who have personal knowledge of the academic performance and potential of the applicant. Applicants who have been out of school for some time may substitute letters from employers or others who know them well.
4. A nonrefundable processing fee of \$40. This application fee is not waivable except in cases of extreme personal hardship.
5. Financial aid forms, if the applicant wishes to be considered for any type of financial assistance.

In previous years, too many applications have lacked all of the credentials required by the Admissions Committee for a thorough evaluation, usually because they were mailed separately and were either never received or were received too late to be incorporated into the applicant's file. The committee has therefore chosen to require that all of the documents necessary for the reading and review of the application be submitted together, in the single large envelope provided for that purpose. Confidentiality envelopes are also provided for the three required recommendations. *The application must be entirely ready for processing and evaluation when it arrives.*



Applicants are generally required to take the Law School Admission Test (LSAT) no later than December. Application forms and information should be procured by writing directly to Law School Admission Test, Educational Testing Service, Box 40, Newtown, Pennsylvania 18940.

Applicants must arrange for the submission of transcripts from all undergraduate and graduate schools attended to the Law School Data Assembly Service (LSDAS), Educational Testing Service, Box 40, Newtown, Pennsylvania 18940.

Applicants who apply later than February 1 run the risk of finding no remaining places in the class. To avoid this disappointment, we strongly recommend that applicants apply between September 1 and January 1.

Personal interviews are not required. Interviews may be arranged, however, if there are special circumstances that cannot be adequately described in writing. It is Duke's assumption that the usual purpose for an interview is to provide the applicant with information about the school.

Each applicant extended an offer of admission will be given at least three calendar weeks to respond. No applicant who receives an offer of admission will be required to make a final decision on the offer prior to April 1. Only in rare cases will offers be extended prior to February 1 or after May 15. After May 15, a waiting list is normally established and held open until a few days prior to fall semester registration. Offers are extended to applicants on the waiting list as withdrawals occur.

An offer of admission is made subject to two conditions:

1. The applicant is required to pay a deposit of \$250, on or before the date specified in the letter of acceptance, to reserve a place in the entering class. This deposit will be partly refunded if the applicant notifies the Dean of Admissions, in writing, of a change in plans; a refund of \$150 will be made if notification is received by June 1. No refund will be made thereafter.
2. The applicant is required to make a firm personal decision, on or before July 1, to promise not to withdraw after that date for any reason that might be foreseen and avoided before that time. The applicant's notarized signature on the school's commitment form constitutes a solemn commitment to attend Duke.

This firm commitment is required because of the nature of our first-year program. Featuring as it does tutorial instruction, we truly need to know how many students to be ready to serve. Substantial variation in class size, as we have learned in recent years, does impair the quality of our program. It is also a severe handicap on others to invite them to take places in the class late in the summer. Some persons who want very much to attend Duke are unable to change their plans at the last moment. Those who do accept last-minute offers of admission are often not fully prepared in their minds for the experience. For all of these reasons, we require that an applicant resolve all of the uncertainties with which he or she is confronted and then make a decision on which others can rely.

If an applicant is not able to make a firm decision by July 1, we offer our services to help overcome any particular causes for uncertainty. In appropriate cases, we will be pleased to postpone admission for the next entering class. If an applicant cannot be decisive before July 1, we feel obliged to ask that tentative plans to attend elsewhere be made, thus allowing us to fill that place in the class with another applicant who can make a firm and timely decision. We very much hope that applicants will understand our needs, and that our conditions will not seem unreasonable.

All first-year students in the J.D. program must commence studies in the fall semester. The Law School does not have an evening division, nor is part-time study available. Duke Law School offers no correspondence courses.

Reactivating Admissions Files

If an applicant has applied for admission in a previous year and was not extended an offer of admission or chose not to enter during that academic year, he or she may request that the file be reactivated for consideration by the Admissions Committee. A nonrefundable fee of \$40 is charged for processing the application, and a check or money order for this amount must accompany the request for reactivation of the file. The applicant must also reregister with the Law School Data Assembly Service (LSDAS), Educational Testing Service, Box 40, Newtown, Pennsylvania 18940.

Transfer Policy

In order to be considered for admission to Duke, a transfer applicant must present evidence of the satisfactory completion of one year of study at any law school that is a member of the Association of American Law Schools, and be eligible for readmission to that school. To be given serious consideration for admission, an applicant should rank in the top third of the class. Two academic years of law study must be completed at Duke. Adjustment of credit for work done in another law school is made by the Dean or the faculty Administrative Committee.

The following items are required to complete a transfer applicant's admission file:

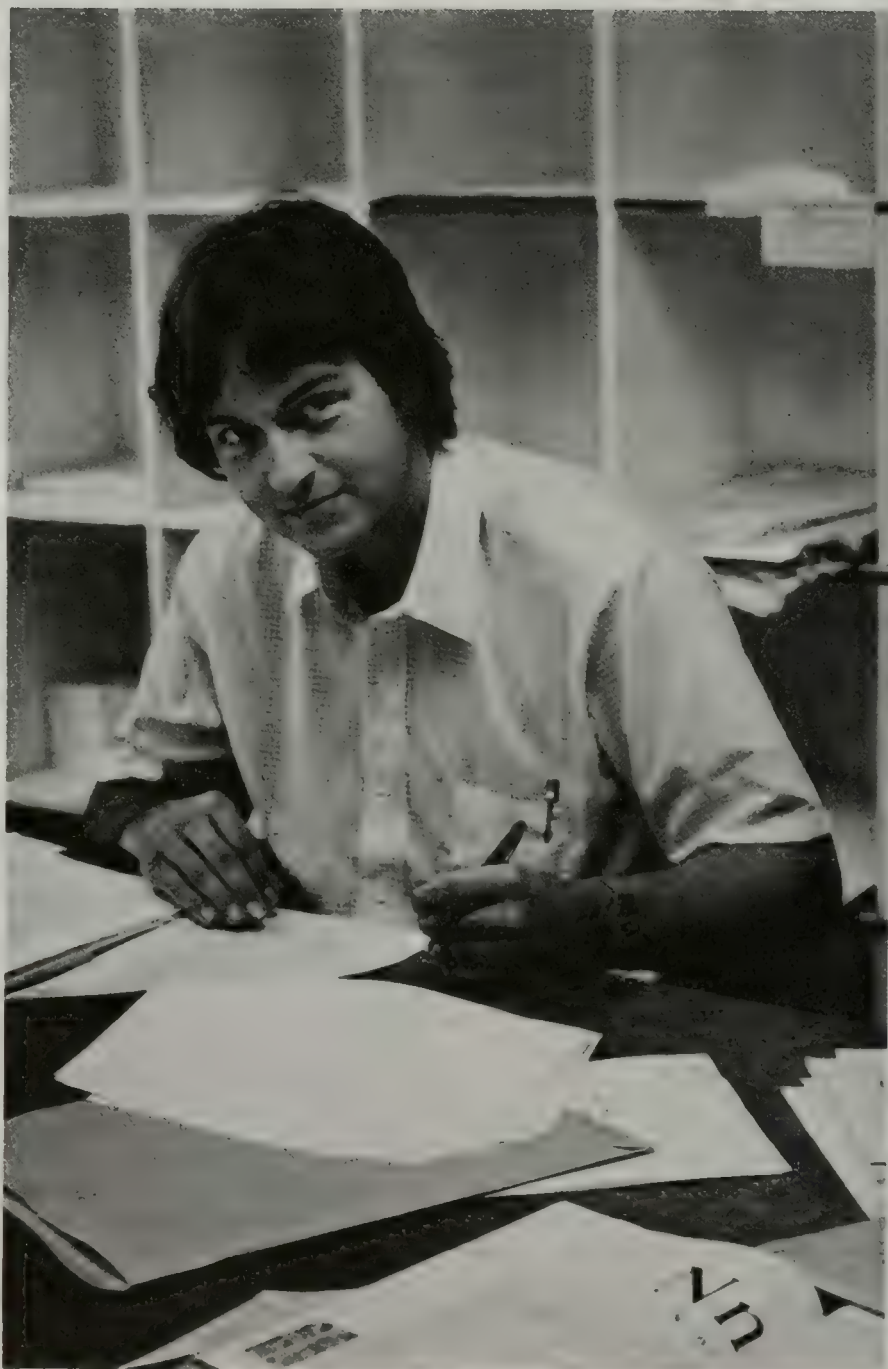
1. \$40 processing fee
2. Letter of certification from the Dean of the law school attended
3. Transcript of all grades earned in the first year of law school
4. The applicant must reregister with LSDAS

Ordinarily, it should not be expected that action will be taken upon transfer applications before July. Spring semester grades must be received by us before decisions can be made.

Joint Degree Programs

Applicants for any of the joint degree programs offered by the Duke Law School are considered for admission to both schools on the same basis as those applicants who are applying for the individual programs. The admission decision of one school has no bearing on the admission decision of the other school. If accepted for admission by both schools, the applicant is automatically eligible to participate in the established joint degree program.

Financial Information



Tuition

The cost of providing a legal education of the quality offered by the Duke Law School is high and has been steadily increasing. Tuition provides only a part of the funds necessary, with the remainder provided by income from endowment, grants, and gift support of alumni and friends.

Tuition at Duke is due and payable not later than the day of registration for a particular semester. For the academic year 1982-83, tuition will be \$6,750 (\$3,375 per semester). Incoming students should be aware that tuition will probably rise annually during their course of study.

Students taking ten or more credit hours of work are regarded as full-time students and are required to pay full tuition. Students taking less than ten hours of work are regarded as part-time students and are required to pay one-tenth of a semester's tuition for each hour of work.

Joint degree candidates in business and law enroll in law for two years, and business for two years; an internal transfer of funds from the Fuqua School of Business to the Law School assures an equitable distribution of tuition income between the two schools. Other joint degree candidates are required to pay that fraction of a Law School tuition which their Law School work bears to their total work for the semester.

Candidates for the Master of Comparative Law or Master of Laws degrees must in any event pay one full year of tuition in order to receive their degrees. The tuition and special fee for international graduate students in 1982-83 totaled \$7,150.

Tuition Refund Policy. Tuition refunds are governed by the following policy:

1. In the event of death or a call to active duty in the armed services, a full tuition refund is granted.
2. In all other cases of withdrawal, students or their parents may elect to have tuition charges refunded or carried forward as a credit for later study according to the following schedule:
 - a. withdrawal before the beginning of classes—full refund;
 - b. withdrawal during the first or second week—80 percent;
 - c. withdrawal during the third through fifth week—60 percent;
 - d. withdrawal during the sixth week—20 percent;
 - e. withdrawal after the sixth week—no refund; but
 - f. tuition charges paid from grants or loans will be restored to those funds and will not be refunded or carried forward.

Other Fees

Late Registration/Late Payment Fee. Students who register in any semester or pay their fees at a date later than that prescribed are required to pay to the Office of the Bursar a \$25 penalty for late registration or late payment of fees.

Student Health Fee. A student health fee of \$170 (\$85 per semester) is charged to all Duke University students. Optional Health Insurance is available. The cost is \$125 for a single student, \$150 for married student coverage. These figures are approximations.

Athletic Events Fee. Law students may secure admission to all regularly scheduled University athletic contests with the exception of football and basketball, held on University grounds during the entire academic year free of charge. A fee of \$15 is charged for football events only and \$50 for football and basketball. This fee is payable in the fall semester. Students may also use the facilities of the Duke golf course upon payment of student green fees.

Duke Bar Association Fee. A \$10 fee each semester is due and payable not later than the day of registration for a particular semester. This fee is utilized exclusively to support the activities of the student bar association.

General Expenses

Applicants should be aware that the following general expense estimates were compiled in the spring of 1982, and appropriate revisions may be necessary to reflect inflationary increases. It should also be recognized that the expenses of a Duke law student may vary considerably according to the style of living assumed, travel distance, and size of family, if any. With the above cautionary statements in mind, the following are the best estimates of total living costs for a nine-month academic year: approximately \$13,400 for single students; approximately \$16,800 for married students; and approximately \$19,500 for married with one child. Included in the above cost-of-living estimates are current expense levels for tuition, lodging, board, books (approximately \$675 if purchased new), supplies, transportation, and personal effects. Applicants for loans and scholarships should anticipate that their proposed budget figures will be examined carefully with the expectation that those figures should not exceed the above-estimated expenses.

Debts

No records are released and no student is considered by the faculty as a candidate for graduation until all indebtedness to the University is settled with the Bursar.

Scholarship Assistance

Professional education is expensive. Unfortunately, the Law School must rely upon students to bear the primary burden of this cost, with such help as they may receive from families, governments, or other organizations. The Law School, however, does provide a number of substantial scholarships to entering students.

Merit Awards. The Law School competes for students with several fine institutions which enjoy longer traditions of excellence. In order to assure each entering class that it will have a solid core of outstanding members who are admissible to any law school, there are a number of awards made each year which are based on merit. Merit, for this purpose, is usually defined as extraordinary academic promise manifested by grades *and* test scores which are substantially

above the class medians. But merit, for this purpose, also includes extraordinary achievement or unusual experience or background. It is not to be supposed that persons receiving such awards are more meritorious, in the broadest sense of that word, than many other entering students whose admissions credentials may seem a bit less unusual. Indeed, many students who do not receive merit awards will prove to be more deserving of praise as law students. But, it is believed, all students at the school are benefited by the solid assurance given that Duke law students as a group are among the ablest to be found anywhere.

While financial circumstance is a factor in awarding some of these scholarships, the primary purpose of these awards is to assure the quality of the entering class. Students receiving such awards are generally those who reasonably can be expected to make significant contributions to the community, by reason of their exceptional academic promise, extraordinary achievements, and valuable experience or background. Typically, scholarships of this type are divided into five equal payments, each to be made at the beginning of each of the first five semesters of law study. Thus, somewhat more assistance is given at the beginning of the student's academic career, and less later, as the student can be expected to achieve greater financial independence.

These scholarships are funded from five sources:

William Neal Reynolds Scholarships were established by the Z. Smith Reynolds Foundation in honor of the brother of R. J. Reynolds, the founder of the tobacco company.

Bunyon S. Womble Scholarships were established by the Womble family in honor of the founder of a North Carolina law firm.

James A. Bell Scholarships were established by the Bell family in honor of a federal judge.

Elvin R. Latty Scholarships were established by alumni and friends in honor of a former Dean of the Law School.

Dunspaugh-Dalton Foundation Scholarships were established by a Miami foundation.

Need Awards. The Law School also provides a number of smaller scholarships that are intended primarily to aid those students who are most in need of financial assistance. In order to qualify for assistance of this kind, students must make application through the Graduate and Professional School Financial Aid Service (GAPSFAS), Box 2614, Princeton, New Jersey 08540. Parental participation in the GAPSFAS report is mandatory, regardless of whether the applicant declares "independent" or "dependent" status. The Law School fully recognizes that many students are independent of their families for all purposes, but in choosing among competing student needs, those that cannot be met by parents will be accorded priority.

These scholarships are funded from seven sources:

Neill Blue Memorial Scholarships were established in memory of a law student who suffered a tragic death in 1971.

Jenny Ferrara Scholarships were established by Vincent L. Sgroso, of the Class of 1962, in honor of his grandmother.

John R. Parkinson Scholarships were established by the Parkinson family.

Anna Pierce Stafford Scholarships were established in honor of members of the family.

South Carolina Law Alumni Scholarships were established by South Carolina Alumni.

The Hunton and Williams Scholarship was established by the law firm of Hunton & Williams, through its Raleigh, North Carolina office.

University Scholarships were established by the University from general endowment funds.

A few scholarships are also awarded each year to second-or third-year students who have distinguished records in law school and who demonstrate substantial need that cannot be met from other sources.

These scholarships are funded from three sources:

David H. Siegel Scholarships were established by Allen G. Siegel, of the Class of 1960, in memory of his father.

Richard M. Nixon Scholarships were established by the Class of 1937 to honor their classmate, the former President of the United States.

The Miller and Chevalier Charitable Foundation Scholarship was established by a Washington, D.C. law firm.

Students seeking aid on the basis of need should file a financial aid application at the same time that they apply for admission. An attempt will be made simultaneously to inform all such applicants of both the admissions and scholarship decisions, although some decisions concerning scholarships will be made at a later time. The fact that a student has applied for financial aid will not affect the decision on the application for admission.

Need grants are also awarded on a five-semester basis.

Loan Assistance

Students who need loan funds to help finance their legal education must submit a Duke Law School financial aid request form at the time application is made for admission. Therefore, when applicants receive an offer of admission they will generally know the amount and kind of financial assistance available. In relation to the earliest acceptances, however, there may be a brief delay in determining the student's eligibility for loans because of the several sources of information which must be coordinated. The appropriate loan application and a request for additional documentation required will be sent to the student when the student confirms his or her place in the entering class and accepts the financial aid offer.

Incoming students applying for loans administered or certified by Duke University are required both to submit certified or notarized copies of their income tax returns (Form 1040) for the previous year for themselves and for their parents and to participate in the Graduate and Professional School Financial Aid Service (GAPSFAS). The GAPSFAS report should be completed and directed to the school as soon as the student can supply all needed information. Reports arriving after April 30 may disadvantage the student. Income tax returns are not required at the time of application, but will be requested later. Information and application material for GAPSFAS may be obtained by writing Educational Testing Service, Box 2614, Princeton, New Jersey 08540.

After the first year, an independent student is not required to submit parental information, but must still submit a GAPSFAS report, or any other test of eligibility required by federal regulations, containing his or her personal information.

At this time the following loan sources are either administered by Duke University or are available to Duke law students. Approval of any loan application is based on financial need and satisfactory scholastic standing.

National Direct Student Loan Program Loans. Loans are available to Duke law students through the student loan program established under the National Direct Student Loan (NDSL) Program, assuming the continuation of appropriations by Congress for this purpose. Interest on these loans, at a rate of 5 percent, begins to accrue six months after the student leaves the Law School, and repayment usually begins at that time. Complete repayment is scheduled over a period of up to ten years. Duke administers all NDSL loan funds allocated to it under strict federal guidelines dealing with such issues as the amount of parental

income, reasonableness of budgets, complete disclosure of assets, and emancipation within the meaning of the applicable federal regulations. A GAPSFAS report is required to determine NDSL eligibility.

Federally Insured Student Loan Program. This program allows a student with demonstrated need according to the GAPSFAS report or a newly created federal need analysis to borrow up to \$5,000 per year at a 9 percent interest rate. Interest on these loans will be paid by the government while the student is in school. As with the NDSL, a six-month grace period after graduation is permitted before repayment must begin. A student will have a maximum of ten years following graduation or withdrawal from the University to repay the loan. A student who has not received a FISL in prior years is required by Duke University first to apply for necessary funding to the appropriate governmental agency in the student's home state. If this agency denies the request, a letter from the agency certifying this determination must be submitted to the Law School which will then consider the applicant for a FISL. This policy has been adopted by the University owing to a drastic reduction in available loan funds, which are inadequate to meet the needs of all students seeking loans.

State Guaranteed Loans. Most states have established guaranteed loan programs for graduate and undergraduate study for their own residents. The terms of such loans, the methods of administration, and the availability of funds vary widely among the various states. For the most part the federal need analysis is now required for these loans. You should consult your state to determine its exact requirements. The Law School will supply information regarding the appropriate agencies to contact in each state and will also make appropriate certifications in support of the loan applications of individual students applying for state guaranteed loans.



Curriculum



First-Year Curriculum

The following first-year courses are required of all J.D. and LL.B. candidates:

Courses	Credits
Civil Procedure	5
Constitutional Law	5
Contracts	5
Criminal Law	3
Lawyers and Clients	1
Property	5
Torts	5
Tutorial in Research and Writing	<u>2</u>
	31

Each first-year course will be divided into a combination of large, medium, and/or small sections. Each first-year student will be assigned in one of his or her courses to a small section, normally numbering not more than twenty-five, and in the balance of his or her courses to medium or large sections. The tutorial program is offered in conjunction with the small sections of the first-year courses.

FIRST-YEAR COURSES

110. Civil Procedure. A consideration of the basic problems of civil procedure designed to acquaint students with the fundamental stages and techniques of litigation—e.g., pleading, discovery, trial, appeal, judgments, and multiparty actions—and to introduce them to underlying problems such as jurisdiction, choice of law in a federal system, and the roles of courts as law-making institutions. 5 s.h. *Paschal or Carrington and Phillips*

120. Constitutional Law. An examination of the distribution of and limitations upon governmental authority under the Constitution of the United States. Included are study of the doctrine of judicial review of legislative and executive action, the powers of Congress and the President, the limitations on state governmental powers resulting from the existence or exercise of congressional power, and judicial protection against the exercise of governmental power in violation of rights, liberties, privileges, or immunities conferred by the Constitution. 5 s.h. *Van Alstyne or Dellinger*

130. Contracts. The formation and legal operations of contracts, their assignment, their significance to third parties, and their relationship to restitution and commercial law developments; the variety, scope, and limitations on remedies; and the policies, jurisprudence, and historical development of promissory liability. 5 s.h. *DeMott, Pratt, or Weistart*

140. Criminal Law. An introductory study of the law of crimes and the administration of criminal justice, including analysis of the criminal act and the mental element in crime, consideration of specific offenses as defined by statute and the common law, and discussion of typical defenses in relation to specific crimes. One of the purposes of the course is to introduce the students to the nature of social control mechanisms and the role of law in a civilized society. 3 s.h. *Beale, Allen, or Horowitz*

Lawyers and Clients. One-week intensive course in professional responsibility. 1 s.h. *Staff*

160. Property. A study of the basic concepts of real property law and conveyancing, including historical background; estates in land, including the fee simple, the fee tail with its statutory substitutes, the life estate, the estate for years, and other nonfreeholds; concurrent ownership; types of future interests; conveyances before and after the Statute of Uses; landlord and tenant; the modern deed—kinds, delivery, description, title covenants, and agreements running with the land at law and in equity; easements; and recording and title registration. 5 s.h. *Maxwell or Sparks*

170. Torts. An analysis of liability for personal injuries and injuries to property. The law of negligence occupies a central place in the course content, but the course also considers other aspects of tort liability such as strict liability, liability of producers and sellers of products, nuisance, liability for defamation and invasion of privacy, and commercial torts. The subjects of causation, damages, insurance (including automobile no-fault compensation systems), and workmen's compensation are also included. 5 s.h. *G. Christie, Lange, or Robertson*

SUMMER ENTERING PROGRAM

A summer program in law, philosophy, and economics will begin at Duke in the summer of 1983, and will be conducted initially on an experimental basis. The program's purpose is to combine law, philosophy, and economics in a coherent format and in so doing give to the students participating in it a broader perspective than is usually gleaned from the study of a single discipline. Prospective students interested in this program should so indicate on their applications to the Law School.

Capsule descriptions of the courses of study follow:

Law and Economics. An exploration of the role of law in shaping the environment in which economic decisions are made. The tools of microeconomic analysis that are most appropriate to understanding and predicting the consequences of alternative legal arrangements include consumer and producer choice theory, capital theory, general equilibrium theory, the analysis of uncertainty, imperfect competition, public goods and externalities. Quantitative methods will be developed and used to apply these tools to a wide variety of legal problems including antitrust policy, public utility regulation, crime control, tort law, products liability, contract remedies, discrimination, environmental protection, labor law, and patents. This course satisfies prerequisites for further graduate work in economics (6 units). The course will be taught by Professor Dan Graham of the Department of Economics.

The philosophy summer program consists of two consecutive five-week courses, a seminar in legal philosophy followed by an independent study course. One grade will be given for both courses, and it will be based upon class participation in the seminar and a research paper produced by the end of the independent study. Both courses will be taught by Professor Golding of the Department of Philosophy.

Seminar in Legal Philosophy. Study of theories of the nature of law and their relevance to such topics as legal reasoning, the justification of punishment, the relationship between law and morality, and the limits of law. Three class meetings per week for five weeks. Lectures and presentations of student reports.

Independent Study in Legal Philosophy. Each student will select a problem for investigation. Consultation with the instructor on a regular basis. A research paper will be due at the end of this course.

Second-and Third-Year Curriculum

In the absence of special authorization from the Dean, each student is required to take in each semester courses aggregating not less than twelve and not more than sixteen semester-hours.

The program in the second and third years is entirely elective, with the exception of the course in Lawyers and Clients (or some other course or seminar that deals with professional ethics that may be designated as its equivalent from time to time), which is required. In planning his or her program, however, the student should bear in mind that certain more basic courses may be prerequisites to other more advanced courses, and that for this reason—as well as to avoid possible schedule conflicts—it is generally advisable to take these more basic courses in the second year.

UPPERCLASS COURSES

200. Administrative Law. A study of administrative agencies and legislative authority, information gathering and withholding, rule-making and order-formulating proceedings, judicial review of administrative action, and constitutional limitations on administrative powers. 3 s.h. fall. *Schroeder*

400. Admiralty. An examination of the special body of law governing maritime affairs, especially the transportation of goods and passengers by water. Included in this coverage are admiralty jurisdiction, marine insurance, carriage of goods, charter parties, general average, rights of injured seamen and others, collision, salvage, maritime liens and ship mortgages, limitations and liability, and governmental activity in shipping. 3 s.h. spring. *Paschal*

415. American Legal History. A study of the development of fundamental American legal institutions and principles, with emphasis upon the relationships between changes in the law and other changes in American life. 3 s.h. fall. *Pratt*

205. Antitrust. A study of the federal antitrust laws and the policy of using competition to control private economic behavior. 4 s.h. fall. *Havighurst*

255. Basic Federal Income Taxation. An introduction to federal income taxation, with emphasis on the determination of income subject to taxation, deductions in computing taxable income, the character of the income realized, and the proper taxpayer on which to impose the tax. 4 s.h. fall, *Gann*; or 4 s.h. spring. *Schmalbeck*

210. Business Associations. An examination of the state and federal law pertinent to corporations and, to a lesser extent, partnerships as business entities. Detailed attention is given to the legal ground rules for the life cycles of corporations—to their organization, preincorporation transactions, basic financial structure, internal governance arrangements, dissolution, and other fundamental changes. The contrasting approaches of Delaware, California, and the Model Business Corporations Act to the obligations and rights of officers, directors, and controlling stockholders are closely examined. Further, a detailed study is made of

those portions of the federal securities law that most closely affect the organic law of the corporation—federal regulation of the proxy system and of tender offers and federal restraints on inside trading and on certain other transactions in securities. 4 s.h. fall. *Cox*

210. Business Associations. An examination of the state and federal law pertinent to corporations and, to a lesser extent, partnerships as business entities. Detailed attention is given to the legal ground rules for the life cycles of corporations—to their organization, preincorporation transactions, basic financial structure, internal governance arrangements, dissolution, and other fundamental changes. Further, a detailed study is made of those portions of the federal securities law that most closely affect the organic law of the corporation—federal regulation of the proxy system and of tender offers and federal restraints on inside trading and on certain other transactions in securities. Portions of the course are organized around a series of hypothetical problems designed to place the course materials in a realistic business-planning context and to emphasize the role of the corporate lawyer in facilitating clients' goals while minimizing adverse legal risks. Students are required to submit a written solution to one planning problem during the course. 4 s.h. spring. *DeMott*

300. Business Planning. Advanced work in corporation, partnership, and income tax law, securities regulation, and accounting. Attention is focused on a series of problems that commonly and currently face business lawyers in the formation and financing of business organizations; restructuring ownership interests and financing their withdrawal; share repurchases for insiders' strategy; sales and purchases of businesses; and merger and other enterprise combination, enterprise division, and dissolution. The problems are analyzed, and solutions are presented in class discussion and papers by an integrated approach that embraces the interplay of restraints posed by various areas of the law. Prerequisite: Corporate Taxation (may be taken concurrently). 3 s.h. fall. *Pinna*

215. Commercial Law. An integrated study of the law governing commercial transactions and emphasizing the application of the Uniform Commercial Code, particularly the articles dealing with commercial paper, bank deposits and collections, and secured transactions. Topics that are given particular attention include the function and incidents of common forms of negotiable instruments, the mechanics of the bank collection process, and the operation of retail credit systems. 4 s.h. fall, *Shimm*; or 4 s.h. spring. *Weistart*

310. Conflict of Laws. A study of the special problems that arise when the significant facts of a case are connected with more than one jurisdiction, including recognition and effect of foreign judgments, choice of law, federal courts and conflict of laws, and the United States Constitution and conflict of laws. 3 s.h. fall. *Reppy*

315. Corporate Finance. A consideration of the role and impact of financial analysis in the application and development of legal norms in connection with recurring corporate transactions. Coverage includes an investigation of the financial considerations arising in connection with valuation of a business corporation, rearrangement of the rights of creditors and stockholders in bankruptcy, establishment of dividend and reinvestment policies of publicly traded corporations, and measurement of the fairness and success of corporate acquisitions. The concluding half of the course is devoted to discussion of various financial alternatives to effecting acquisitions which shall be explored in a series of brief memoranda prepared by the students for formal discussion and evaluation in class. Prerequisite: Business Associations. 2 s.h. spring. *Cox*

320. Corporate Taxation. A study of the special provisions of the Internal Revenue Code concerning the tax effects of the major events that occur in the life

span of a corporation, including the taxation of distributions of corporate property to shareholders and the formation, reorganization, and liquidation of corporations.

Prerequisite: Basic Federal Income Taxation. 3 s.h. spring. *Gann*

223. Criminal Procedure: Formal. A study of the basic rules of criminal procedure, beginning with the institution of formal proceedings, with special emphasis upon bail, criminal discovery, plea bargaining, prosecutorial discretion, preliminary hearings, the grand jury, professional ethics in criminal cases, speedy trial, and sentencing. 2 s.h. (Not offered 1982-83.)

223. Criminal Procedure: Formal. A study of the basic rules of criminal procedure, beginning with the institution of formal proceedings. Subjects to be covered include prosecutorial discretion, the grand jury, the preliminary hearing, criminal discovery, guilty pleas and plea bargaining, jury selection, pretrial publicity, double jeopardy, the right to counsel and professional ethics in criminal cases. 3 s.h. spring. *Beale*

222. Criminal Procedure: Police. A study of the legal restrictions on police investigative practice which typically proceeds the institution of formal proceedings, with special emphasis upon "stop and frisk," arrest, search and seizure, confession suppression, lineups, electronic surveillance, and operation of the exclusionary rule. 2 s.h. fall, *Everett*; or 2 s.h. spring. *Pye*

325. Debtors' Estates. A study of the methods by which conflicts between the financially distressed debtor and creditors, and conflicts among creditors may be resolved. Considered and comparatively evaluated are remedies invoked by both the debtor and a creditor or creditors, those looking to both debtor liquidation and debtor rehabilitation, and those both without and within the Bankruptcy Code. Prerequisite: Commercial Law or Secured Transactions or permission of the instructor. 3 s.h. spring. *Shimm*

359. Economic Analysis of Legal Issues. An exploration of diverse topics in law and economics such as property rights and externalities, tort law and optimal accident prevention, bargaining and game theory, the economics of contracts, and theories of economic justice. 2 s.h. fall. *Schmalbeck*

517. Employment Discrimination. A study of the law of employment discrimination, focusing mainly on federal law prohibiting race, sex, age, and handicapped discrimination. The course provides a basic knowledge of statutory coverage, standards, procedures and proof, and avenues of relief. Class discussion emphasizes important issues arising in current cases: for example, reverse discrimination versus affirmative action, the controversial "comparable worth" concept in equal pay litigation, and the "bottom line" defense to test invalidation. *L. Larson*

327. Environmental Law. A study of major policy and legal issues raised by efforts to manage environmental harms and pressure ecological systems. Emphasis in the course is on recurring themes and conflicts, and on the economic, social, ecological, and political assumptions that underlie the different responses that have been proposed. 3 s.h. spring. *Schroeder*

330. Estate and Gift Taxation. A study of the rules governing federal taxation of gifts, trusts, and estates, including selected federal income tax laws relating to trusts. Prerequisite: Basic Federal Income Taxation (may be taken concurrently). 3 s.h. fall. *Adams*

225. Evidence. A study of the theory and rules governing the presentation of evidence to a judicial tribunal, including the function of the judge and jury; the concept of relevancy; character evidence; judicial notice; real and demonstrative evidence; authentication of writings; the best evidence rule; competency, impeachment, and rehabilitation of witnesses; hearsay and the exceptions to its

exclusion; and privileged communications. 3 s.h. fall, *Pye*; or 3 s.h. spring. *Allen*

335. Family Law. A study of legal issues relating to the family, including marriage, unmarried cohabitation, divorce, procreation and abortion, child custody, and the relationship between parent, child, and state. 3 s.h. fall. *Bartlett*

340. Federal Courts. A study of the federal courts with respect to the part played by them in achieving a workable federalism. Special attention is given to the original jurisdiction of the federal district courts, the relationship of the federal courts to state courts and state law, and the permissible and desirable range of federal judicial power. 3 s.h. fall. *Paschal*

250. Financial Information, Accounting, and the Law. An examination of the significance of financial information to two important groups: investors and creditors. This objective is sought through an examination and analysis of accounting principles and practices as they interface with a variety of legal problems. The course materials also present a wealth of information arising from empirical studies of stock price behavior in response to financial information as further evidence of the information needs of investors. Contemporary reporting problems such as the regulation of financial forecasts, accounting for the gains and losses arising from inflation, the role of financial information in predicting business failure, and the information needs of investors in an efficient market are singled out for special consideration, along with the more orthodox coverage of the fundamentals of accounting theory and practice. 2 s.h. fall. *Croft*

265. Future Interests. An examination of the following considerations in noncommercial property dispositions: class gifts and other issues in will construction; powers of appointment; classification of future interests; and rules against perpetuities, accumulations, and restraints on alienation. 3 s.h. spring. *Sparks*

337. Institutional Investors. An examination of the behavior and responsibilities of mutual funds, life insurance companies, pension funds, bank trust departments, charitable foundations, and other institutional investors. Questions to be examined are the obligations institutional investors owe to their beneficiaries, the companies in which they invest, and to society generally. Of equal concern are the economic considerations that guide the investment behavior of institutional investors and underlie their regulation. Prerequisite: Business Associations. 2 s.h. (Not offered 1982-83.)

345. International Business Transactions. This course examines various topics related to the conduct of international business. Subjects covered are international private trade, including private international contracts, dispute resolution, and letters of credit; the extraterritorial reach of the antitrust and securities laws; national and international regulation of trade in goods, including GATT; and international regulation of monetary affairs through the IMF. 3 s.h. fall. *Gann*

230. International Law. An introduction to the public international law of peace, including the nature and sources of international law; its place in national and international decision making; the roles of international organizations, states, and individuals in the international legal system; bases and limitations of jurisdiction; the utilization and interpretation of treaties and other international agreements; and some aspects of the regulation of economic activity within the international system. 3 s.h. fall. *Robertson*

235. Jurisprudence. A historical examination of the development of legal philosophy from ancient times to the contemporary period. 3 s.h. spring. *G. Christie*

240. Labor Relations. A study of the law of labor-management relations, centering upon the National Labor Relations Act, as amended. The course investigates problems involved in the regulation of industrial conflict (strikes, picketing, boycotts, and unfair labor practices by employers), the establishment of the collective bargaining relationship, the negotiation and enforcement of the collective agreement, the arbitration of disputes under the agreement, the relationship between the union and its members, and the protection of individual and minority rights. 3 s.h. fall. *Horowitz*

355. Land Use Planning. A survey of legislative, administrative, and judicial controls utilized to facilitate the orderly development and redevelopment of real property. This consideration includes public and private nuisance, zoning, subdivision control, housing codes, street mapping, and condemnation. The clash of individual and societal interests in land use is explored through cases involving the distinction between valid police power regulations and "takings" for public use that require payment of compensation. Problems of urban renewal, regional planning, and pollution of water and air also receive consideration. 2 s.h. spring. *Schroeder*

357. Law and the Arts. An introduction to basic problems in entertainment law, the area of speciality practice involving the representation of publishers, broadcasters, cable television operators, film producers, artists, writers, musicians, and performers. The course includes detailed instruction in the law of copyright as well as unfair competition in artistic works, the protection of ideas, the right of publicity, performers' rights, and selected aspects of defamation and invasion of privacy. 3 s.h. spring. *Lange*

360. Lawyers and Clients. A study of the function of lawyers; relations between lawyers and clients, including fee arrangements; lawyers' liability for malpractice; standards of professional conduct; and the role of lawyers in litigation, negotiation, counseling, and politics. 1 s.h. spring. *Mirande and staff*

217. Negotiable Instruments. A study of the law governing negotiable instruments—checks, drafts, and promissory notes—emphasizing Articles 3 and 4 of the Uniform Commercial Code. Topics that are given particular attention include the function and incidents of negotiable instruments, the treatment of events that frustrate their payment, and bank collections. 2 s.h. fall. *Shimm*

396. Oil and Gas. A study of the law governing the recognition and protection of property interests in oil and gas in natural reservoirs and an analysis of the transactions, particularly the oil and gas lease, by which the right to produce oil and gas is purchased. Although the course is focused on the private law problems of landowners and firms interested in mineral development, the legal problems and policy implications of government intervention for conservation and for economic regulation are considered. 3 s.h. spring. *Maxwell*

339. Public Education Law. An examination of public education from two perspectives: (1) the institutional and legal framework—organization, financing, and governance of public schools and their relationship to other governmental bodies; and (2) the perspective of the individual student on education and the educational system—due process, equal educational opportunity, religion in schools, testing and ability grouping. 2 s.h. spring. *Bartlett*

365. Real Estate Financing. An examination of techniques of real estate financing, including conventional mortgages, subdivision development, and federal assistance to real estate developers. Prerequisite: Commercial Law or Negotiable Contracts. 3 s.h. spring. *Maxwell*

370. Regulated Industries. A study of government economic regulation in such regulated industries as transportation, electric power, telephone, broadcast-

ing, oil and gas, and health care, with emphasis on control of entry, mergers, and rates, and on the interface between regulation and the antitrust laws. 3 s.h. (Not offered 1982–83.)

332. Remedies. A survey of the law of judicial remedies, with illustrative applications in various areas of substantive law. Approximately half the course is spent on aspects of the main types of remedies—damages, equitable remedies, restitution, and declaratory relief. The remainder examines applications in principal substantive law fields—private law (injury to persons and personal property, real property, and contract) and public law (civil rights). Class discussion is not primarily of cases but rather of problems, related to reading assignments in a text rather than a casebook. 2 s.h. spring. *Rowe*

373. Secured Transactions. A study of the law governing the financing of personal property transactions on a secured basis, emphasizing Article 9 of the Uniform Commercial Code. Particular attention is given to the creation and perfection of security interests, the rights of third parties who may claim competing interests in the goods, and the consequences of default. 2 s.h. fall. *Shimm*

375. Securities Regulation. A study of the federal and state securities laws and the industry they govern with emphasis on the regulation of the distribution process and trading in securities; subjects dealt with include the functions of the Securities and Exchange Commission, registration and disclosure requirements and related civil liabilities, “blue-sky” laws, proxy solicitation and reporting requirements, broker-dealer regulation, the self-regulatory functions of the exchanges, and the regulation of investment companies. Prerequisite: Business Associations. 3 s.h. spring. *Cox*

390. State and Local Government. An examination of the scope of local government power, intergovernmental relations, legislation by local government, enforcement of regulatory measures, labor-management relations in public employment, financing local government, public expenditures, urban renewal, housing and code enforcement, eminent domain, and governmental tort liability. 2 s.h. (Not offered 1982–83.)

270. Trusts and Wills. An examination of noncommercial property dispositions, both testamentary and *inter vivos*, including the following topics: the estate system, intestate succession, execution and revocation of wills, creation of trusts, ademption and lapse, integration of dispositive schemes, charitable trusts, resulting and constructive trusts, remedies for wrongful interference with succession and transfer, and problems in trust administration. 3 s.h. fall or spring. *Reppy or Sparks*

CLINICAL COURSES AND SEMINARS

560. Clinical Seminar in Advocacy: Labor Law. The focus of the seminar is on honing the advocacy skills required in labor litigation. The work will consist of writing a brief and submitting an oral argument on a complex labor case. Members of the faculty and some outside judges will sit to hear the oral presentations. Prerequisite: Labor Law. 2 s.h. spring. *Rutledge*

558. Clinical Seminar in Criminal Appellate Practice. Analysis of the record and preparation of the briefs and other court documents in one or more “live” cases in federal or North Carolina appellate courts. 1 s.h. spring. *Reppy*

380. Civil and Criminal Trial Practice. An introduction to the civil and criminal litigation process and attendant skills. The course emphasizes the interactions between attorneys and their clients and between lawyers and juries by

use of simulation and videotape pedagogy. Areas of inquiry include trial preparation, jury selection, opening statements, closing arguments, evidentiary objections, and direct-and cross-examination. Each student completes the course requirements by participating as counsel in a full jury trial. Prerequisite: Evidence. 3 s.h. fall, *Hutchinson or Foster*; 3 s.h. spring. *Hutchinson, Becton, Beskind, or Swinson*

538. Clinical Seminar in Civil Litigation Practice. An intensive practicum in pretrial litigation, combining a two-hour classroom component requiring the student to "litigate" a simulated case through the stages of interviewing and fact investigation, pleadings, discovery, negotiation, and with an extramural placement in a local law office requiring the student to perform litigation tasks on actual cases. Placements will be in legal services offices or in private law firms. Under the North Carolina Student Practice Rules, this placement experience may include actual representation of indigent clients. 4 s.h. fall. *Bartlett*

554. Clinical Seminar in Commercial Arbitration. A concentrated, lecture presentation of the fundamentals of construction law (2 hours per week for 3 weeks), followed by the students' preparation (4 weeks) and presentation (3 hours per day for four days in each of two weeks) of a construction arbitration. Two teams of up to six members each utilize the project documents and transcript of a recent case to develop practical skills in formulating the theory of the case, preparing the claims/defense manuals, demonstrative evidence and briefs, examining and cross-examining witnesses, and making opening and closing arguments. Three students act as arbitrators, conduct the hearings, rule on evidentiary matters, and render a written award. There is a "morning after" critique of each session. 3 s.h. spring. *Foster*

521. Clinical Seminar in Criminal Law and Procedure. An examination of the lawyering process in criminal cases from the point of view of the criminal justice practitioner. Using videotape simulation, students will participate as attorneys in simulations of various stages of criminal justice process from initial interview through trial. The clinical phase of the seminar requires each student to practice with criminal justice practitioners pursuant to the North Carolina Rules Governing Practical Training of Law Students. Placements include district attorneys and private defense counsel. Prerequisites: Criminal Procedure; Police; Evidence; and Trial Practice. 4 s.h. *Beskind and Rudolf*

506. Clinical Seminar in Negotiation and Settlement. An examination of the lawyer's role as a negotiator in seeking to resolve legal disputes without resort to full adjudication. The course focuses on techniques, tactics, ethics, and other aspects of the negotiation process. Students are divided into teams which compete with each other in seeking to negotiate settlements in a series of simulated disputes involving such matters as commercial transactions, personal injury claims, real estate transactions, antitrust litigation, and labor relations. Enrollment limited to twenty-four. 2 s.h. fall and spring. *Hutchinson.*

529. Clinical Seminar in Psychiatry and Law. An examination of the basic concepts of clinical psychiatry utilizing small-group teaching in a seminar format. Depression, mania, schizophrenia, paranoia, sociopathy, neuroses, and personality disorders are discussed. Patient interviews are utilized to demonstrate the principal mental illnesses. Training is provided in conducting interviews with psychiatric patients. In addition, general interview technique is demonstrated, focusing on verbal and nonverbal communication, utilizing videotape. Several sessions focus on the basic principles of forensic psychiatry. Competency to stand trial, the insanity plea, and the commitment process are discussed. (Not offered 1982-83.)

536. Clinical Seminar: Representing the Child. A study of practical and ethical considerations involved in representing children, requiring the student to

respond as a lawyer to simulated problems in child advocacy. Course includes the lawyering processes of interviewing, counseling, negotiation, case planning, and trial practice. The class problems, which deal with the child's relationship both to his or her parents and to the state, include delinquency, child abuse and neglect, child custody, the handicapped child in public schools, the institutionalized child, and health care. To supplement the simulation assignments, all students will be required to perform lawyering tasks in connection to an actual case on which they will work with either the instructor or a local attorney. An additional one-hour credit may be earned by more extensive casework with a local attorney who represents children. Prerequisite: Family Law. 2 or 3 s.h. spring. *Bartlett*

OTHER SEMINARS

508. Seminar in Agency, Partnership, and the Employment Relations. A traditional examination of the law of agency and partnership coupled with the study of certain specialized problems arising from the employment relation such as the termination of employees and the enforceability of postassociational restraints on competition. 2 s.h. spring. *Croft*

290. Seminar in American Legal Research and Writing for International Students. This course introduces international students to the techniques of case and statutory analysis, as well as to the tools and methods of legal research. Students are expected to complete written assignments and memoranda of law. The emphasis is placed on legal reasoning and writing skills. 2 s.h. fall. *Germain*

577. Seminar in Antitrust and the Professions. An examination of the impact of the recent extension of antitrust laws to "the learned professions." In addition to considering the significance of these developments for professionalism, special antitrust issues are also addressed. (Not offered 1982-83.)

502. Athletics and the Legal Process. An examination of legal relationships in professional sports as a basis for developing concepts about the nature of the legal process. To be examined are the respective roles of private contract, collective bargaining, and private and public litigation to resolve conflicts both between players and clubs and among clubs themselves. The major concepts to be applied will be drawn from the areas of labor, antitrust, and contracts law. Among the subissues to be considered are the rights of the league to control player movement, the legal bases of team and player discipline, protection of individual rights in collective bargaining relationship, the interaction of labor and antitrust law in matters of player relations, league control of franchise location, restraints on club ownership, and the nature of a league as an economic entity. Prerequisite: Labor Relations. 2 s.h. spring. *Weistart*

513. Seminar in Chinese Law and Society. A survey of the evolution of Chinese legal thought and practice from its origins to contemporary development, with an emphasis on an examination of the law of late imperial eighteenth to early twentieth centuries, and People's China. Particular attention is focused on the relation of law to social ideals, to social change, and to politics. In addition to conventional criminal and civil processes, the informal and extrajudicial institutions, procedures, and norms that have been employed in China are also studied. Readings include "legal novels," and translations of laws, cases, and jurisprudential essays from both traditional and contemporary China. Prior familiarity with Chinese history is unnecessary. 2 s.h. spring. *Ocko*

562. Seminar in Civil Law. The history, sources, and methods of the civil law are investigated, discussed, and compared with those of common law countries. A substantial paper on an aspect of French or West German law will be required. The

papers will be assigned, supervised, and evaluated by Ms. Germain. The seminar will also be scheduled for eight discussion meetings, two with Ms. Germain and six with Professor Grossfeld. 2 s.h. spring. *Germain and Grossfeld*

584. Seminar in Collective Bargaining. A comprehensive treatment of the legal and practical aspects of negotiating a collective bargaining agreement in both the public and private sectors. There is substantial student participation, together with practical demonstrations relating to arbitrations and typical bargaining problems. Prerequisite: Labor Law. 2 s.h. fall. *Siegel*

503. Seminar in Communications Law and Policy. An examination of the following areas: First Amendment theory and development; regulation of the media as businesses; the right to gather information; proposed rights of access to the press; defamation and invasions of privacy; copyright; the regulation of obscenity and indecent matter; and the special regulatory position of the electronic mass media under the Communications Act of 1934, with particular emphasis on license applications and renewals, cross-ownership and control, network practices, programming, and cable and pay television. 2 s.h. fall. *Lange*

559. Community Property. A survey of the marital property laws of Arizona, California, Idaho, Louisiana, Nevada, New Mexico, Texas, and Washington, with comparison to Spanish system. Students may concentrate their studies on the law of one of the eight states. 2 s.h. spring. *Reppy*

522. Seminar in Comparative Labor Law. A comparison of the labor relations laws of the United States with compulsory conciliation and arbitration in Australia; the various regimes of collective bargaining in Japan, Canada, and in Great Britain; and codetermination in the Federal Republic of West Germany. In comparing the labor relations laws of these diverse countries, the course attempts to apply the methodology of Sir Otto Kahn-Freund. 2 s.h. fall. *McCallum*

572. Seminar on Comparative Public Law and Policy: Ethnic Group Relations. An interdisciplinary seminar to appraise various approaches to the reduction of conflict in deeply-divided societies, primarily in Asia and Africa, but with secondary attention to Western countries. Substantial attention will be paid first to the nature of ethnic identity, the sources of group conflict, and the forms and patterns it takes. Consideration will be given to methods of analyzing social science materials and utilizing them for the design of policies, laws, and institutions. Approaches considered include federalism, regional autonomy, electoral law, parliamentary and presidential arrangements, and programs to prefer under-represented ethnic groups in education, employment, and other spheres of economic activity. Emphasis will be placed on forecasting and evaluating the impact of alternative approaches. 2 s.h. spring. *Horowitz*

625. Seminar in Constitutional Law—Theories of Constitutional Adjudication. An examination of the role of the Supreme Court and methods of deciding constitutional issues, beginning with such topics as the relevance of constitutional history, legislative and administrative motive, legislative facts, and interest balancing; continuing with study of constitutional doctrines in major areas such as procedural and substantive due process, equal protection, fundamental rights, and freedom of expression, with emphasis on how ideas of what role the Court should properly play affect the doctrines themselves; and concluding with consideration of current constitutional cases raising issues discussed earlier in the seminar. There will be a writing requirement, with an individual option for an examination in lieu of part of the writing requirement. Prerequisites: completion of a basic course in constitutional law, and a (reasonably) serious interest in confronting difficult and often rather theoretical questions of the role the Supreme Court should play in American government. 2 s.h. spring. *Rowe*

600. Seminar on Contract Theory. A special one-credit seminar conducted in conjunction with Professor Patrick Atiyah, Professor of English Law at Oxford. Students will be required to write a paper of eight to twelve pages critically evaluating one or more of the theories encountered in the seminar. 1 s.h. spring. *Atiyah and DeMott*

534. Seminar in Courts and Politics. Examination of: historical and contemporary case flow impact on such judicial institutions as jurisdiction, judicial administration, and court organization; internal politics of trial and appellate processes; selection and performance of federal trial and appellate judges as policy-makers; and a brief comparative perspective on courts. 2 s.h. spring. *Fish and others*

515. Seminar in Estate Planning. An examination of the problems and techniques of tax and estate planning. Prerequisites: Estate and Gift Taxation and Trusts and Wills; students taking Future Interests as well will be given preference in enrollment. An optional one-credit placement with a local attorney is available for a limited number of students. 3 s.h. spring. *Adams*

500. Seminar in the Federal Practice of Civil Rights and Civil Liberties. A study of advanced constitutional law and federal practice, working through a series of problems to provide: (a) familiarity with the principal federal statutes (procedural, substantive, and remedial) used in civil rights litigation; (b) their judicial interpretation and application; and (c) a consideration of frontier constitutional issues. 3 s.h. spring. *Van Alstyne*

518. Seminar in Federal Tax Policy. Structure, incidence and economic effects of major federal taxes. Special attention to problems of inflation, income definition, and distortions of economic incentives in the areas of savings and investment. There are no fixed prerequisites, but prior or concurrent exposure to other tax courses (especially Basic Federal Income Taxation) and/or microeconomics and statistics courses would be helpful. 3 s.h. fall. *Schmalbeck and Clotfelter*

561. Seminar in Forensic Psychiatry. This seminar will examine psychiatric pathology, using medical-clinical material to explore the disabilities involved in issues of criminal responsibility and commitment proceedings. 2 s.h. spring. *Brodie and staff*

548. Seminar in Health and Safety of Toxic Chemicals. A study of the policy and legal issues that are suspiciously raised by the toxic chemicals and the characteristics and uses of public health problems they pose. The implications of imperfect scientific knowledge, low probabilities of highly catastrophic events, and remote consequences will receive attention. The seminar will include presentation of some of the instructor's work in this area as well as of student papers. Completion of either administrative law or environmental law will be extremely valuable and may be a criterion for enrollment in the event of oversubscription. 2 s.h. fall. *Schroeder*

557. Seminar in International Taxation. An examination of the federal income tax imposed on income earned in foreign countries either by citizens and residents of the United States or by foreign corporations that are controlled by citizens and residents of the United States. The course also includes a study of the federal income tax imposed on nonresident aliens and foreign corporations on their income derived from United States sources. Prerequisites: Personal Income Taxation, Corporate Taxation (may be taken concurrently), or permission of the instructor. 2 s.h. spring. *Gann*

366. Seminar on Jewish Law. Study of factors (cultural and juristic) in the development of Jewish law especially in the Talmudic and mediaeval periods;

relationship between "religious" and "civil" law; the legal codes and the decision-making process of the rabbinic courts. Some legal texts (in translation) will be submitted to intensive examination. 2 s.h. (Not offered 1982-83.)

526. Seminar in Judicial Biography. The seminar is devoted to the study of biography as a form of legal history. Biographies of both judges and lawyers will be assigned for reading and discussion. In addition to a critical evaluation of the biographies, the seminar will consider the problems inherent in writing biography, the goals of an author of legal biography, and the constraints that may be placed on an author. A paper is required. 2 s.h. spring. *Pratt*

566. Seminar in Jurisprudence. An intensive inquiry into specific problems of modern jurisprudential theory. 2 s.h. spring. *G. Christie*

620. Seminar in Law of the Sea. An examination of the legal problems resulting from uses of the seas and the efforts made toward resolution of those problems. The seminar's focus is on the jurisdictional problems created by the competing claims of nation-states to competence as to the territorial sea, the continental shelf, the contiguous zone, economic zones, and the seabed. These claims are examined in the context of specific uses of the seas, including navigation, military, fishing, extraction of minerals, and scientific research. Prerequisite: International Law (may be taken concurrently). 2 s.h. spring. *Robertson*

410. Seminar in Legal History. A study of the history of American law during a defined chronological period. The first meetings of the seminar are devoted to discussions of the writing of legal history. Thereafter, students are required to write a paper on some aspect of law during the period. 2 s.h. (Not offered 1982-83.)

528. Seminar in Legal Issues in Health Care. A study of the health care delivery system and the legal problems it presents. The seminar will direct attention to licensing and other controls over physicians and other health personnel, the law of medical malpractice and other mechanisms for assuring the quality of care, regulatory mechanisms to contain costs, and proposals for national health insurance or other fundamental reform. 2 s.h. fall. *Havighurst*

527. Interdisciplinary Seminar in Medical-Legal-Ethical Issues. A seminar composed of students and faculty from the Medical, Law, and Divinity Schools for critical consideration of selected pertinent issues of mutual professional interest. 2 s.h. spring. *Gianturco (medicine), Shimm (law), and Smith (divinity)*

570. Seminar in Military Law. A study of military jurisdiction, the rights of military personnel, and the body of both substantive and procedural law that has developed under the Uniform Code of Military Justice. In addition to its other goals, the seminar seeks to develop skills in statutory interpretation and to encourage comparisons between civilian and military criminal law administration. 2 s.h. spring. *Everett*

504. Seminar in Motion Picture Production, Finance, and Distribution. An exploration of most legal aspects of the independent motion picture production. The subject matter includes legal restraints on capital acquisition by antitrust laws; conventional bonding and financing agreements; application of tax laws and availability of foreign and American tax shelters; the producer's relationship with authors, writers, composers, actors, directors, cinematographers, editors, and members of the production crew under such relevant but diverse laws as copyright and labor; and conventional release, distribution, and exhibition agreements, with some emphasis on antitrust law. Basic working knowledge of the motion picture industry or comparable entertainment industry background is presupposed. Cer-

tain aspects of the course may be transferable to other forms of independent production, such as musical performances, recording, or theater. Course requirements include extensive research and drafting, and some negotiations. Enrollment is limited to three to five students, with permission of the instructor required to enroll. 2 s.h. (Not offered 1982–83.)

541. Seminar in Presidential Decision Making. An examination of decision making by the President of the United States in the area of National Security Affairs. In addition to discussing the legal framework in which these decisions must be made, an attempt is made to ascertain and evaluate the full range of factors that must be taken into account in reaching such decisions, including the economic and political consequences of those decisions on both the national and international levels. The seminar considers how the relationships among legal institutions can affect the process of decision making. It approaches the subject from the point of view of a lawyer who is serving in a policy-making role in the executive branch of the government. A number of guests with experience in foreign policy decision making participate from time to time in the seminar's discussions. This seminar is made possible by grants from the Trent Foundation in honor of Sarah P. Duke. 2 s.h. (Not offered 1982–83.)

556. Seminar in Responsibility in Law and Morals. Investigation of the relationship between responsibility in the law and moral blameworthiness; excuses and defenses; the roles of such concepts as act, intention, motive, ignorance, and causation. Texts: Holmes, *The Common Law*; Hart, *Punishment and Responsibility*; Morris, *Freedom and Responsibility*. 2 s.h. spring. *Golding*

530. Seminar in Psychiatry for Lawyers. This seminar will examine the psychiatry of professional relationships, to provide an intellectual framework for the study of the lawyer's role in interviewing and counseling. 2 s.h. spring. *C. Shimm and M. Shimm*

581. Seminar in Taxation of Exempt Organizations. An examination of the role and status of nonprofit corporations with the focus on federal tax rules that apply to organizations exempt from federal income taxation. Emphasis is placed on 501(c)(3) public charities, but consideration is also given to the role and treatment of private foundations. Consideration is given to the policy and practice of preferred tax treatment for selected organizations, including tests for qualification, denial or loss of exemption, mechanics for securing and retaining exemption, reporting requirements, unrelated business income, private inurement and political activity. Prerequisite: Basic Federal Income Taxation. 2 s.h. fall. *McDonald*

601. (Bus. 491.x). Seminar in the Use of Statistics in Business Litigation. Reading and discussion of books, papers, and court opinions concerned with the use of statistical methods of inference in corporate litigation. Areas of litigation include employment discrimination, antitrust, product liability, health and safety, jury selection, and rate setting. The emphasis will be on the proper use of statistical methods in various situations, and the strengths and weaknesses of various techniques. Understanding of statistical ideas, rather than mathematical rigor or numerical proficiency, is a course objective. Familiarity with statistical ideas or solid grounding in college algebra is prerequisite. 3 s.h. spring. *Peterson*

RESEARCH TUTORIALS

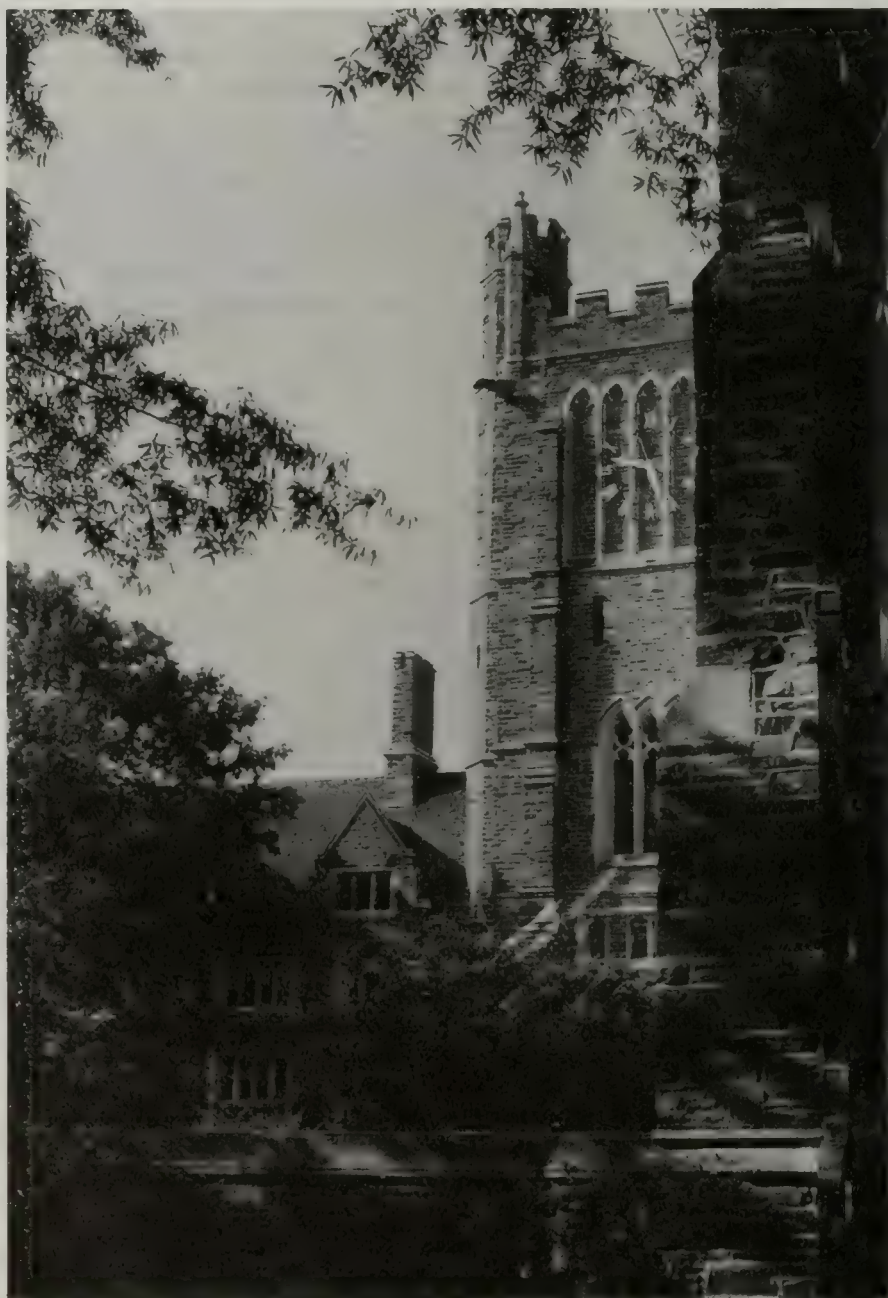
565. Research Tutorial/Attorney Fee Shifting. Supervised research and writing on aspects of possible change in the virtually unique American rule that a losing civil litigant, absent a special statute, contractual provision, or exceptional circumstances, pays nothing toward the winner's attorney fees. Paper topics could cover such subjects as attorney fee shifting and the survival of the contingent fee

(banned in most other Western nations); discovery abuse; class actions; public interest litigation; appeals; lawyer-client relations; delivery of legal services to the poor; the financing of civil litigation generally; the tax treatment of legal expenses. Student papers of sufficient quality will be included, along with contributions from outside authors, in an issue of *Law and Contemporary Problems*. Participants in the tutorial could also take part in a possible conference on the subject along with outside authors, commentators, and practitioners, and might assist in the evaluation and editing of solicited articles from the outside contributors. Backgrounds in economics and comparative law would be helpful but not essential. Permission of the instructor required to enroll. 2 to 5 s.h. fall. *Rowe*

550. Research Tutorial/Constitutional History. Supervised research on the eighteenth-century formation of the federal Constitution. 2 s.h. fall. *Dellinger*

645. Research Tutorial/Retirement Income Security. Students will prepare major research papers on topics relating to public and private programs for retirement income security and governmental regulation thereof under the Employee Retirement Income Security Act (ERISA) and other legislation. Papers may focus on tax treatment, labor law issues, public policy and economic analysis of current and proposed legislation, and problems posed by inherent conflicts between federal regulatory patterns and state law and policy. 2 to 5 s.h. fall through spring. *Adams*

Scholastic Standards and Rules



Grading

The Law School utilizes a numerical system of grading based on a 4.0 scale with letter-grade equivalents. Although grade distribution will vary from course to course, the normal distribution in an average class with a large enrollment (over forty students) will approximate the following:

Numerical Grade	Letter Grade	Percentage
3.5-4.0	H (Honors)	10-15
2.7-3.4	HP (High Pass)	35-40
1.8-2.6	P (Pass)	40-50
1.3-1.7	LP (Low Pass)	
1.0-1.2	F (Fail)	0-10

Ungraded Course Work

There are some course offerings available on a credit/no credit/fail basis. These include the following:

1. courses so designated by faculty action;
2. courses previously audited for not less than eight calendar weeks;
3. independent research;
4. ad hoc research seminar programs;
5. courses taken in other divisions of the University;
6. courses taken in other law schools;
7. retaken courses in which the student was previously enrolled and for which a failure grade was received;
8. courses in which the student was previously enrolled for not less than eight calendar weeks; and
9. courses in which the student has taken a special final examination or submitted a special paper.

A failing performance will be treated as such and the student will receive a grade of *fail*. Such a grade is considered a failure for the purpose of determining whether a student has failed more than the number of semester-hours permitted for continuation and is averaged as a grade of 1.2 in computing the student's average. It is not counted for purposes of the eighty-six semester-hour requirement for graduation, but is counted for the purpose of computing residence credits.

Courses in Other Divisions of the University

Second- and third-year students may take courses offered in other divisions of the University upon the condition that the student is engaged simultaneously in at

least ten semester-hours of courses in the Law School. Credit (limited to a total of six semester-hours) toward the J.D. degree will be granted for those courses of suitable academic rigor that, in the judgment of the Dean, are related to the student's education in the law. A written request for permission to enroll in a University course outside the Law School must be presented to the Dean. A grade of *P* (or its equivalent) or better will be recorded as *credit*. Grades that are lower than *P* but higher than *F* (or their equivalents) will be recorded as *no credit*. Failing grades will be recorded as *fail*.

Courses in Summer Schools

Students who wish to attend summer sessions at other law schools must submit a written request to the Dean for permission to do so. The request should state the name of the school and the courses to be taken. A grade of *P* (or its equivalent) or better will be recorded as *credit*. Grades that are lower than *P* but



higher than *F* (or their equivalents) will be recorded as *no credit*. Failing grades will be recorded as *fail*.

Independent Research

Law students in their second and third year of the J.D. or LL.B. programs may undertake up to four semester-hours of independent research in any academic year if the research is approved by a faculty member. Research will be graded on a credit/fail basis. Students undertaking independent research will meet regularly with the faculty member supervising the research in order to ensure contemporaneous discussion, review, and evaluation of the research experience.

Ad Hoc Seminars

A group of five or more students may plan and conduct their own research and seminar program for not more than two semester-hours of credit (which shall be considered to be independent research within the meaning of the maximum limitation of four semester-hours of independent research each year). A request to establish such an ad hoc seminar should be addressed to the Dean at least two months before the end of the semester preceding the semester in which the seminar is proposed and contain an outline of coverage and required readings. The Dean will request a member of the faculty to evaluate the program and determine whether the proposed program has academic merit. If approved by the Dean, a faculty member will be requested to evaluate the contribution of each participant before awarding credit. A written paper of the kind generally submitted in seminars will be required of each participant. Such seminar work shall be graded on a credit/fail basis.

Registration

All students are required to register on the dates prescribed in the Law School calendar, at which time class schedules and course cards must be completed and approved. A student's registration for any semester is not complete until all indebtedness is settled with the Office of the Bursar. Students are not eligible to attend classes or make use of University facilities if they have any outstanding debt to the University.

Students may alter their registration by adding or dropping courses any time during the first two weeks of a semester, except that in a seminar in which enrollment has been limited by the instructor's designation, no student may withdraw without the permission of the instructor.

Minimum and Maximum Course Loads

No student is permitted to take fewer than twelve semester-hours per semester without permission of the Dean. No first-year student may take courses other than those constituting the required first-year program without permission of the Dean. Second- and third-year students are not permitted to take for credit more than sixteen semester-hours per semester, nor may they audit and take for credit more than seventeen semester-hours per semester without permission of the Dean. Students will not receive full residence credit if they take for credit fewer than ten semester-hours per semester.

Examinations and the Submission of Research Papers

Unless the instructor announces before the end of the second week of the semester that another technique for evaluating student performance will or may be

used, a written final examination shall be given at the conclusion of every course. An instructor may require an examination in a seminar if this intention is announced before the end of the second week of the semester.

No student may enroll in any course in which a research paper has previously been submitted or the final examination taken except a student who has failed the course and is required by the instructor to retake it or who obtains permission of the instructor to do so. The retaken course shall be graded on a credit/fail basis, and the latter grade will be substituted for the earlier grade received.

Except with the joint permission of the Dean and the instructor involved, no credit will be given for any research paper submitted in partial or full completion of the requirements of a course in which a student is enrolled unless the paper is submitted on or before the last day of the examination period.

Except with the joint permission of the Dean and the instructor involved, no credit shall be received for any examination taken in partial or full completion of the requirements of a course in which a student is enrolled unless the examination is taken at the time it is regularly scheduled. Such permission shall be granted only in the case of sickness, extreme personal hardship, or a conflict in the scheduling of two or more examinations.

An instructor may deny a student the right to take an examination in a course and may enter a failing grade for excessive absences or gross unpreparedness.

Submission of Grades

All grades for all courses and seminars shall be submitted by instructors on or before the twenty-eighth calendar day following the last day of the regularly scheduled examination period.

When a student is granted an authorized extension for completion of required course work, the instructor shall, in lieu of a grade, enter the designation "incomplete." Except where an extension is specifically granted for a longer period, a designation of "incomplete" shall automatically be changed to a grade of 1.0 after the twenty-eighth calendar day following the last day of the regularly scheduled examination period of the semester in which the course is offered.

Eligibility to Continue Law Study

Good Standing. Any student who is eligible to continue the study of law and who is not on probation is in good standing.

Probation. Any first-year student with a cumulative grade-point average between 1.7 and 2.0 and whose failure grades, if any, total not more than eight semester-hours shall be placed on probation for the next two semesters.

Any student who in the second year received failure grades in courses totaling six or more semester-hours (but less than a total of ten hours during the second year), or who achieves a grade-point average of less than 2.0 in either semester of the second year, shall be placed on probation for the next two semesters. Any student who receives a grade-point average of less than 2.0 in the fifth semester shall be placed on probation for the sixth semester. Any student in the third year who receives failure grades in courses totaling six or more semester-hours (but less than a total of ten semester-hours during the two-year period) or who achieves a grade-point average of less than 2.0 in the third year, will be required to return for a seventh semester unless the student is relieved of the requirement by the faculty.

Every student on probation shall be subject to the special supervision of the Dean for the probationary period. The Dean may designate courses to be taken by the student and may require that they be taken on a graded basis. A student on probation shall be ineligible to continue the study of law at this institution if, at the end of the probationary period, the cumulative grade-point average for all work undertaken at the Law School is not 1.8 or higher.

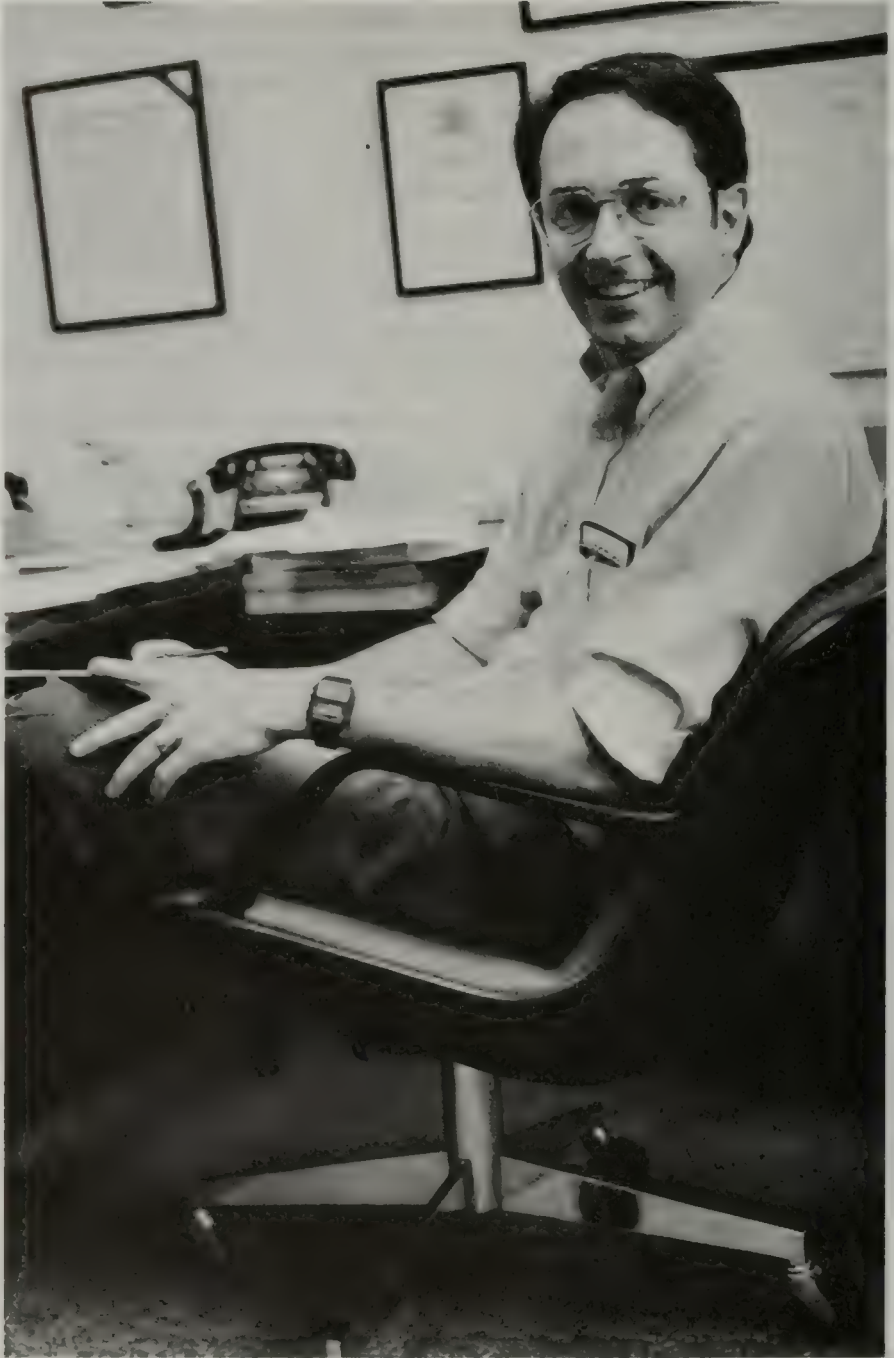
Repetition of First Year. Any first-year student with a cumulative grade-point average of less than 1.7 but not less than 1.6 and who has received failure grades in courses totaling not more than eight semester-hours shall be permitted to repeat the first year. At the option of the student, upper-class courses may be substituted for first-year courses in which a grade of 2.0 or higher was achieved. A student repeating the first year shall be eligible to continue the study of law only if a grade-point average of not less than 1.8 is achieved for that year. Any student repeating the first year under this rule who achieves a grade-point average of 1.8 or higher, but less than 2.0, or achieves a grade-point average greater than 2.0 but receives a failure grade in one or more courses, shall be placed on probation and is subject to the provisions of the preceding paragraph.

If the student elects not to repeat the year, an opportunity to withdraw voluntarily from the Law School shall be given. The student who does not do so shall be declared ineligible to continue the study of law.

Ineligibility to Continue. Any first-year student with a cumulative grade-point average of less than 1.6 or who has failed courses totaling more than eight semester-hours of credit shall be ineligible to continue the study of law at Duke. Any student who fails a total of more than ten semester-hours of credit over the course of the second and third years or whose grade-point average for the second year is less than 1.7 shall be ineligible to continue the study of law.

Notification of Unsatisfactory Scholastic Standing. The Dean shall inform students who are not in good standing of their status, the requirements that must be met to continue to be eligible for the study of law at the Law School, and the requirements that must be satisfied to be eligible for graduation.

Degree Programs



Juris Doctor Degree

Upon favorable recommendation of the faculty, the degree of Doctor of Law (J.D.) will be conferred upon students who have successfully completed six semesters of law study in residence at Duke. Two semesters of law study undertaken at another accredited American law school may be counted toward the required total if the final two semesters (exclusive of a summer session) and a minimum of fifty-six semester-hours of law study are undertaken at Duke.

Students shall be deemed successfully to have completed six semesters of law study if, during a minimum of ninety academic weeks, they have satisfied the following requirements:

1. a passing grade in courses aggregating eighty-six semester-hours and
2. a grade-point average of at least 1.80 on a 4.0 scale and good standing under the rules defining probationary status (see section on Eligibility to Continue Law Study).

Bachelor of Laws Degree

Upon favorable recommendation of the faculty, the degree of Bachelor of Laws (LL.B.) will be conferred upon students who have satisfied all of the requirements listed above as necessary for the Doctor of Law degree but who do not possess a baccalaureate degree prior to completion of the program of study for the Doctor of Law degree.

Joint Degrees

Combined Doctor of Medicine-Law Degree. The School of Law and the School of Medicine of Duke University jointly sponsor a program of combined legal and medical education. The program provides an opportunity to acquire a full basic study of the two fields. Upon satisfactory completion of the required course of study, candidates will be awarded both the J.D. and M.D. degrees.

The student in the M.D.-J.D. program begins a six-year course of study in the School of Medicine. As in the regular M.D. program, the first year is devoted to the basic medical sciences and the second year to the basic clinical disciplines. At this point, the student usually enters the Law School, where the first-year curriculum is the same as that of other law students. During the next two years, the student may select courses in the Law School that are of special application to medical-legal interests. The sixth and final year is spent in elective clinical work in the

Medical School tailored to the student's specialized needs. In addition, the student completes eighteen semester-hours, or two summer sessions, of elective basic science work.

Combined Master of Business Administration-Law Degree. The School of Law and the Graduate School of Business Administration of Duke University have established a combined program of studies in law and graduate level business administration. The aim of the program is to provide a small number of selected individuals with the opportunity to acquire an education in both law and business administration in a four-year course of closely integrated study in the two fields. Upon satisfactory completion of the required course of study, candidates will be awarded both the M.B.A. and the J.D. degrees.

The student in the M.B.A.-J.D. program begins the first-year course of study in either the Graduate School of Business Administration or the School of Law. If the student begins in the Law School, the first-year curriculum is the same as that of other law students; if the student begins in the Graduate School of Business Administration, the first-year curriculum is the same as that of other graduate business students. The student's second year consists of the full first-year program of the other school. In the third and fourth years of the program, the student takes a mix of courses in both schools, but mainly in the Law School.

Combined Master of Arts in Public Policy Sciences-Law Degree. The School of Law and the Institute of Policy Sciences of Duke University have established a combined program of studies in law and graduate level policy sciences. The aim of the program is to provide an opportunity for students to acquire decision-making skills and substantive policy knowledge that would be useful in either career or citizen roles dealing with problems of the public sector. Upon satisfactory completion of the required course of study, candidates will be awarded both the M.P.P.S. and the J.D. degrees.

The combined program requires completion of four academic years and one summer internship, of which the first year is spent exclusively in the Law School pursuing the same course of study as do other first-year law students; the second year exclusively in the Institute of Policy Sciences; and the third and fourth years in both schools, but mainly in the Law School. In addition, the student must select a substantive policy area in which to concentrate from among the fields of the administration of justice, communications policy, health policy, and educational policy.

Combined Master of Health Administration-Law Degree. The School of Law and the Department of Health Administration have established a combined program of studies in law and health administration. The aim of the program is to provide interested persons with the opportunity to acquire an education in both law and health administration in an integrated four-year course of study in the two fields. Upon satisfactory completion of the required course of study, candidates will be awarded both the M.H.A. and the J.D. degrees.

The student in the M.H.A.-J.D. program, after completing the first three semesters (twelve months) of the basic M.H.A. program, enters the Law School, where the first-year curriculum is the same as that of other law students. In the third and fourth years of the program, the student continues in the Law School, completing requirements for the law degree, including two electives approved by the Department of Health Administration, and takes ten more semester-hours of M.H.A. course work. In the Law School, the student is encouraged to emphasize courses relating to public law and administration. Opportunities for special activities in health law will be made available to the student by the Department of Health Administration over the course of the program.

Graduate Study in Law

The Law School program is primarily designed to serve students seeking a first professional degree in American law. Rarely are students admitted for the purpose of continuing the study of law at the master's or doctoral levels, although the faculty is empowered to authorize such admissions. Applications for such study by American graduates of American law schools are not sought. Foreign students should consult the chapter of this bulletin addressed to them.

Awarding of Degrees

Degrees are awarded at Duke University in September, December, and May. The names of Duke Law School students who have successfully completed all of the necessary requirements for a degree are presented by the Dean to the University Secretary, who transmits them to the Academic Council and the Board of Trustees for approval.

Law Library



The written law in its variety of forms is the basic working material of the practicing attorney and the legal scholar. At Duke, law students utilize the resources of the library collection and the skills of the highly trained library staff in the development of research skills that will serve them throughout their professional careers.

The Duke Law Library holds a vision of itself as more than a repository of books. Recognizing its place at the center of the Law School community, the library offers accessible, well-organized collections and services. Open stacks are used throughout the library. Both group and individual study areas are arranged in proximity to the most-used materials. The entire collection of over 300,000 volumes is a major research collection designed for the educational needs of law students. It features comprehensive coverage of basic Anglo-American primary source materials, including nearly all reported decisions of federal and state courts, plus current and retrospective collections of federal and state codes and session laws. Digests, legal encyclopedias, and other indexing devices provide access to the primary documents. Materials subject to heavy student use are available in multiple copies. Comprehensive collections of records and briefs from the United States Supreme Court, the Fourth Circuit Court of Appeals, and the North Carolina Supreme Court and Court of Appeals are maintained in microform and hard copy. The library maintains an extensive, and continuously expanding, collection of legal treatises. The treatises are organized in the familiar Library of Congress classification system and are accessible through a public catalog, generated by a computer-based card-production system. Special treatise collections are maintained in several subject areas, including the George C. Christie collection in jurisprudence and the Floyd S. Riddick collection of autographed senatorial material.

The periodical collection includes extensive runs of all major legal research journals, plus bar association publications, institute proceedings, and newsletters. The library is a selective depository for United States government publications, with concentration on congressional and administrative law materials. Hard copy document holdings are supplemented by an extensive microform collection, which includes complete runs of the *Congressional Record* and the *Federal Register*, all post-1970 congressional materials, congressional committee prints dating back to the mid-nineteenth century, and a number of special subject collections. In addition, law students have access to the extensive documents collection of the main campus library. Important state government documents are collected in both hard copy and microform.

In addition to its Anglo-American holdings, the library holds substantial research collections in foreign and international law. The foreign law collection is



extensive in coverage, with concentrations in European law and business law materials. The international law collection is strong in primary source and treatise material on both private and public international law topics.

But the success of a law school library depends as much on the quality of the services it provides as on the strengths of its collection. At Duke, the library staff includes eight librarians with graduate degrees, three of whom hold additional degrees in law. The staff takes its role in the legal education process seriously. The law-trained staff members serve as instructors for the legal bibliography segments of the first-year research and writing program and regularly offer seminars in topics of advanced legal research. A computer-assisted legal research service is available for research and training purposes. Instruction in legal research is also given through a series of slide/tape programs. Computer facilities provide access to self-instructional programs in substantive legal topics and to bibliographic data bases and comprehensive indexing services. The staff produces a series of research bibliographies and various current-awareness services and maintains bibliographies of books by Law School faculty members.

The library is part of the Law School and is administered independently of the main library system at Duke. The Duke University Libraries (Perkins, Law, and Mudd Medical) contain one of the major research collections in the country; the addition of the 3,000,000th volume was celebrated in 1979.

To obtain materials not available locally, the law library staff makes use of a computerized interlibrary loan network, which allows retrieval of information from libraries throughout the country. Cooperation with other libraries, both on and off campus, ensures that materials are available when needed for the Law School community.

The staff of the Law Library in 1982-83 includes the following professionals:

Richard A. Danner, B.A., M.S., J.D., *Director of the Law Library and Assistant*

Professor of Legal Research

Hope E. Breeze, B.A., M.L.S., *Assistant Cataloger*

Michael G. Chiorazzi, B.A., M.L.L., J.D., *Reference Librarian and Instructor in Legal*

Research

Kathryn M. Christie, B.A., M.A., J.D., M.S.L.S., *Reference and Research Librarian*

and Instructor in Legal Research

Janeen J. Denson, A.B., M.S.L.S., *Circulation Librarian*

Claire M. Germain, B.A., LL.B., M.C.L., M.L.L., *Senior Reference Librarian and*

Lecturer in Comparative Law and Legal Research

Katherine Kott, B.A., M.S.L.S., *Head of Technical Services*

Gretchen P. Wolf, B.S., M.S., *Acquisitions Librarian*

Publications



Publications

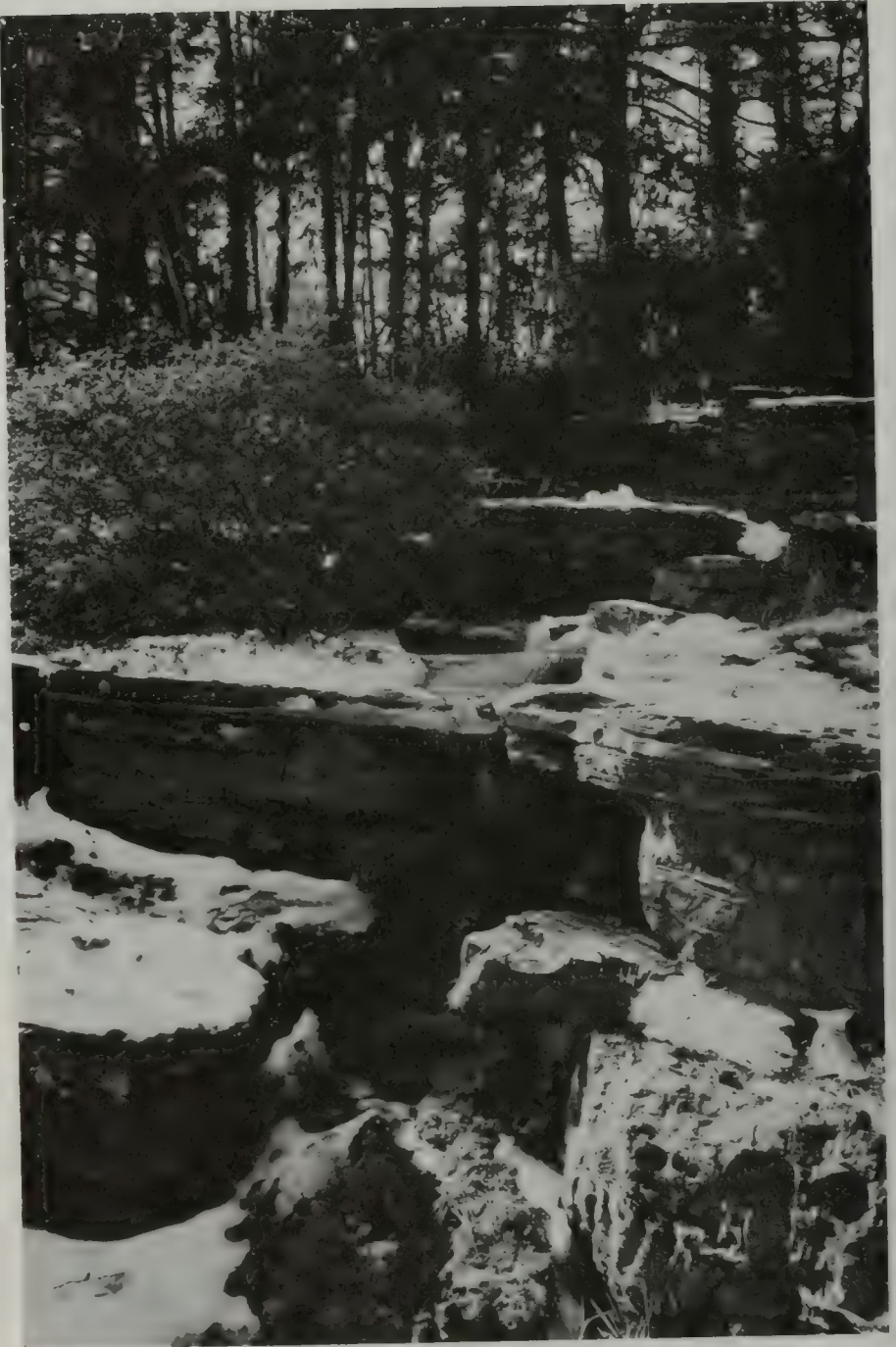
Law and Contemporary Problems. For forty-six years, the Law School has published the faculty-edited quarterly, *Law and Contemporary Problems*. The journal is distinctive among professional legal publications in both its format and its content. Each issue is devoted to a symposium on a particular topic of contemporary interest. These topics are approached from an interdisciplinary perspective with contributions by lawyers, economists, social scientists, scholars in other disciplines, and public officials.

The journal, under the editorial direction of faculty advisory committee, is widely distributed, and its subscribers include general university libraries, governmental agencies, and foreign educational institutions, as well as the more traditional law libraries and law firms. Through arrangements with commercial publishers, selected issues of the journal are also reprinted for general book trade distribution.

Twenty upperclass law students serve on the staff of this publication. They are responsible for much of the editorial work, and contribute their own writing to the symposia. Eight second-year students are selected each year on the basis of their first-year grades and the evaluations of their first-year tutorial instructors. Four new third-year students are elected on the basis of their second-year grades.

Duke Law Journal. The Law School also publishes the student-edited *Duke Law Journal* six times a year. About one-half of its contents consists of notes and comments on current legal developments written by members of the student body; the balance consists of articles submitted by members of the legal profession and other academics. Full responsibility for the selection and editing of material is vested in its student editorial board and its elected officers.

International Students



International Law Study at Duke

The Law School does warmly welcome each year a limited number of foreign students who seek exposure to the American legal system and profession.

Persons considering such study should recognize that enormous difficulty inheres in the study of a foreign legal system. No other academic discipline is so inculturated and makes such enormous demands on the intellectual adaptability of the student. Such study may be particularly difficult at a small school like Duke, which can provide no special academic program to bridge the cultural gulf. Foreign students at Duke must, of necessity, enter into the regular program designed for very able professional students who are presumed to possess a substantial background in their own American culture. Moreover, law study makes substantial demands on the language skills of even those who are native users of English; if a language problem is added to the other inherent difficulties of foreign law study, the disadvantage to the foreign student is further increased.

Duke does make an effort to help foreign students overcome these difficulties as best it can. The staff assistant to the Dean is responsible for assisting foreign students in the management of their immigration and housing problems. And an academic adviser to foreign students does provide academic counsel as well as instruction in American techniques of legal research and writing.

Foreign students are normally assigned to take a first-year course in one of the small sections. The purpose is to facilitate the integration of the foreign students into the intellectual and social life of the Law School by bringing them into close contact with a small group of Americans who are facing similar academic challenges.

The remainder of the academic program is individualized, according to the goals, interests, and talents of the student. Programs are subject to the approval of the academic adviser and a faculty committee.

Admission of International Students

A separate admission process is maintained for foreign students. Prospective applicants should write for forms and information to Judith Horowitz, Administrator for International Studies. The usual application fee is charged. Students who are not native speakers of English are also required to present a satisfactory score on the Test of English as a Foreign Language (TOEFL), which is administered by the Educational Testing Service of Princeton, New Jersey. For further information, appropriate officials at the student's university should be consulted.

Degree Programs

Foreign students may be considered for several different degree programs.

Most foreign students are admitted as candidates for the degree of Master of Comparative Law (M.C.L.). To qualify for this degree, the student must successfully have completed two semesters of the study of law in residence, aggregating not less than twenty semester-hours.

Foreign students who have a solid foundation in English and in a legal system not dissimilar to the American system may be admitted as candidates for the degree of Master of Laws (LL.M.). This degree may also be awarded to students admitted as candidates for the M.C.L. degree who have satisfied the more exacting standards required for the LL.M. degree. To qualify for the LL.M. degree, the student must successfully have completed two semesters of the study of law in residence, aggregating not less than twenty semester-hours, in which he or she has demonstrated a capacity for research and a level of scholarship substantially higher than that required for the degree of Doctor of Law or Bachelor of Laws.

Foreign students who have already earned a degree in American law at the master's level may be admitted as candidates for the degree of Doctor of Juridical Science (S.J.D.). To qualify for this degree, the student must successfully have

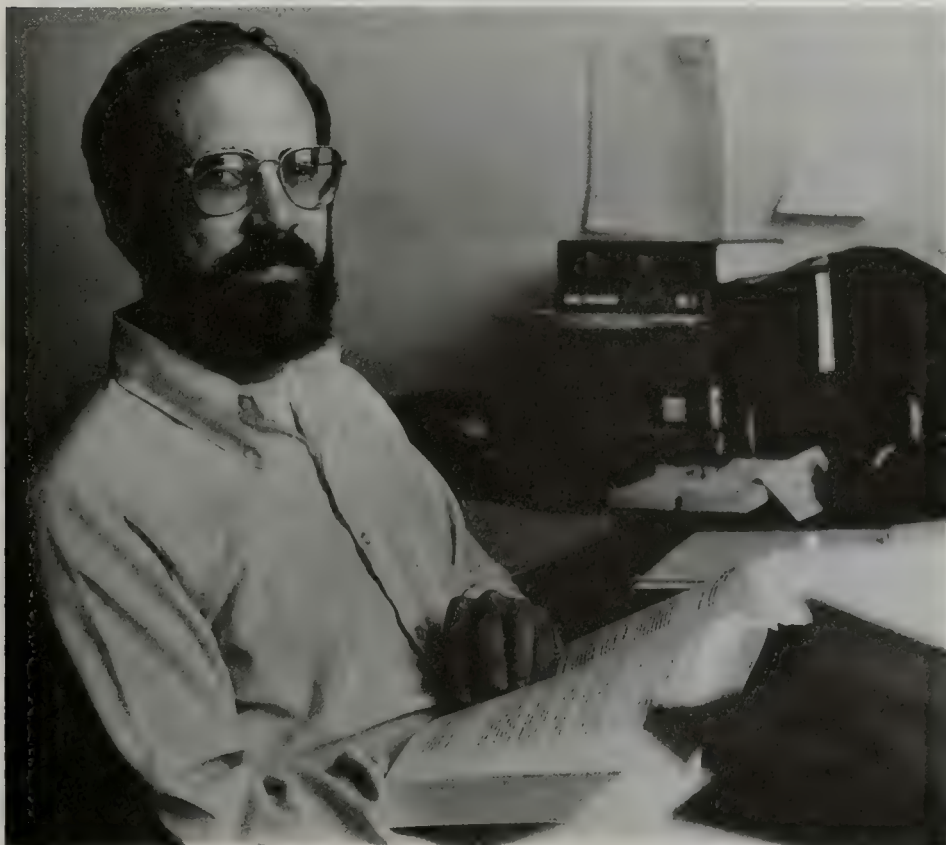


completed a monograph or series of essays suitable for publication and deemed by the faculty to be of distinguished character, and must have passed an oral examination before a special committee of the faculty appointed for that purpose. Students applying for admission to this program must present a fairly specific plan of study and writing with their application. Doctoral candidates who have not previously written in English will be assigned an American student who will provide them with such editorial assistance as may be needed.

Finally, foreign students may be admitted as candidates for the degree of Doctor of Law (J.D.). This is the program that should be pursued by students who expect to achieve solid professional capacity to handle the intellectual difficulties of American law. Such candidates must present a satisfactory score on the Law School Admission Test (LSAT) administered to regular American applicants. Those who have earned professional law degrees in systems not dissimilar to the American system may receive credit for as much as one-third of the course work ordinarily required for the completion of the J.D. program; thus, it is possible for some foreign students to complete this program in two years rather than the usual three.

Financial Aid

Unfortunately, Duke can offer no financial assistance to foreign students. Foreign applicants will be required to supply assurance of their ability to pay their tuition and their personal expenses. The usual deposit will be required to confirm acceptance of a position at the Law School.



Placement



Placement Service

Placement of law students and graduates is the concern of an active placement office located in the Law Building. Its staff includes the Director of Placement who is a faculty member, a full-time Placement Officer and assistant, and several student assistants. The activities of the placement office can be broken down into several categories: coordination of an extensive on-campus recruiting season; custodial responsibility for a wealth of materials on legal careers, available positions, bar membership, and other related matters; and assisting students and recent graduates throughout the year in the job placement process.

The on-campus recruiting occurs primarily during the fall of the year, when nearly 500 employers send representatives to interview members of the two upper classes. As a result of these interviews, a substantial number of students in each of these classes receive offers of employment.

About 86 percent of each graduating class report their employment plans prior to graduation. About one in ten begin their professional careers as judicial clerks, including several who serve on the staffs of federal appellate judges. Among those beginning their careers with private firms, New York, Washington, Atlanta, Los Angeles, and other cities in the south, east, and midwest are the most common locations. Beginning salaries exceed forty thousand dollars in the largest cities, but the median for first jobs is substantially lower.

The placement office encourages students to explore the variety of professional opportunities available to them and seeks to instruct them in effective job-hunting as well. It should be noted, however, that the students themselves are primarily responsible for finding their own employment. They must be willing to devote a large amount of their time to letter-writing and to interviewing. The Law School diligently attempts to assist its graduates, but the ultimate responsibility rests with each student.

Bar Examinations and Requirements

Many states now require that students, prior to or shortly after beginning the study of law, register with the Board of Bar Examiners of the state in which they plan to practice. Prior to selecting the law school they will attend, at matriculation, and at the beginning of each subsequent year of law school, applicants are advised to consult the rules of all states in which they may be interested in practicing after graduation to determine the curriculum and other requirements of state bar examining authorities.

Student Life



Living Accommodations

The majority of law students, both married and single, live in private off-campus housing. Apartments in Durham are plentiful and by national standards moderate in price. Good roads and the absence of heavy traffic make commuting to the Law School from a considerable distance easy. This enables students to choose from a wide variety of housing types. A full range of housing from ultra-modern apartments to rustic cottages is located within minutes of the Law School. Students desiring to live in off-campus housing may obtain from the Assistant Dean's office in midsummer a list of similarly situated incoming students with whom they will be able to share housing expenses. Both married and single students desiring to live off campus should plan to come to Durham one to two weeks early to find housing.

Campus housing is also available. Inquiries for information concerning the kinds of accommodations offered and rental charges should be directed to Manager of Apartments and Property, Department of Housing Management, 217 Anderson Street, Duke University, Durham, North Carolina 27706. The Law School itself maintains lists of students wanting roommates and other information regarding apartment complexes. Inquiries should be directed to the Admissions Office, Duke University School of Law, Durham, North Carolina 27706, or telephone 919-684-2850.

Opportunities to serve on the residential staff in undergraduate dormitories are available. The living accommodations vary in different dormitories, but usually consist of a single room or a two-room apartment. The positions also provide financial assistance. Interested students or spouses should contact the Office of the Dean of Students, 121 Allen Building, Duke University, Durham, North Carolina 27706. Interviews are held in the spring.

Dining Facilities

Dining facilities are located in the Union Building, within easy walking distance of the Law School. The cost of food for the academic year will average approximately \$1,562 if a student dines in University cafeterias.

A large number of law students prefer to bring their lunches from home and eat in one of the student lounge areas in the Law School. From Monday to Friday the Duke Bar Association (DBA) runs a lunch-time snack bar selling coffee, donuts, and sandwiches. In addition, vending machines are located on the ground floor.

The Duke Law School Handbook

Incoming students are supplied with a handbook containing useful information which is compiled and updated each year by the DBA. Topics covered include housing, transportation, living needs and expenses, Law School organizations and activities, Law School facilities, and information for married students such as educational and employment opportunities.

Facilities for the Handicapped

The Law School has anticipated many difficulties that might impede the work of otherwise qualified handicapped law students. Special parking spaces immediately in front of the Law School can be arranged. Inside and outside ramps have been constructed to facilitate access by students in wheelchairs. In addition, there is an elevator in the building. Blind students are guided between classes by voluntary student guides. Similar provisions will be made as necessary for other handicapped students admitted to the Law School.

Student Health

One of the prerequisites for gaining the most from the University experience is a sense of well-being. The aim of the University Health Service is to provide medical care and health advice necessary to help the student enjoy being a part of the University community.

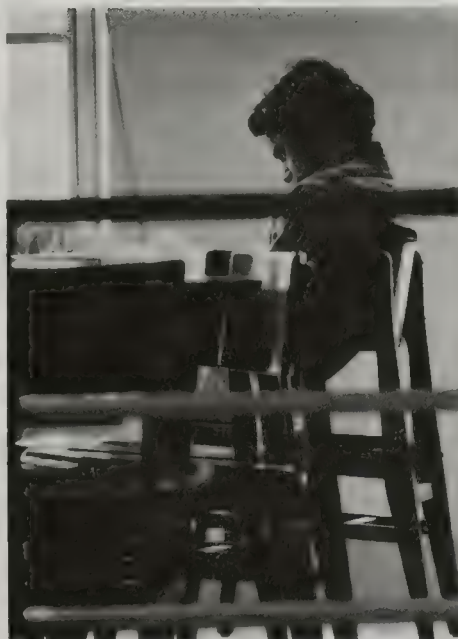
The main components of the health service include the University Health Services Clinic, located in the Pickens Building on the West Campus, and the University Infirmary on the East Campus. Emergency transportation, if required, can be obtained from the Duke campus police.

These facilities are available to all regularly matriculated law students of the University who have paid full tuition and the student health fee. Students who are living in Durham year-round while attending Duke University may elect to continue in the student health program during the summer months when they are not attending classes by paying the student health fee for this period. Proof of preregistration for the next semester is required. Students are not otherwise covered during vacations, and their dependents and members of their families are not covered at any time.

The Student Mental Health Service is located in the Pickens Building. It provides evaluations, brief counseling, and/or treatment for matters ranging from questions about normal growth and development to the most serious psychiatric disorders.

The University has made arrangements for a student Accident and Sickness Insurance Policy to cover all full-time students for a twelve-month period. It provides protection twenty-four hours per day, on and off campus, at home, or while traveling between home and school, and during interim vacation periods. For additional fees, a student may obtain coverage for a spouse or a spouse and child. The University expects all students to be financially responsible for medical expenses above those covered by the University student health program through its Accident and Sickness Insurance Plan, a private insurance policy, or personal financial resources. All full-time students in residence must either subscribe to the University Accident and Insurance Plan or sign a waiver before their registration is complete.

Counseling and Psychological Services. CAPS provides a comprehensive range of counseling and psychological services to assist and promote the personal growth and development of Duke students. The professional staff is composed of clinical social workers, psychologists, and psychiatrists experienced in working



with young adults. Among services provided are personal, social, academic, and career counseling. A number of short-term seminars or groups focusing on skills development and special interests such as coping with stress and tension, fostering assertiveness, enriching couples communication, and dealing with separation and divorce are also offered. A policy of strict confidentiality is maintained concerning information about each student's contact with the CAPS staff. Individual evaluation and brief counseling/therapy as well as career and skills development seminars are covered by student health fees. There are no additional charges to the student for these services.

Appointments may be made by calling 684-5100 or visiting CAPS, 214 Old Chemistry Building.

Other Facilities

Various other facilities are available on campus to students. The newly completed Bryan Center contains a post office, several university stores including the Gothic Bookstore, and three banking machines. In addition, student and other productions are presented in the Reynolds Theater and the Schaefer Laboratory Theater, and the center also contains a film theater, an art gallery, banquet rooms which are available to students at minimal cost, and lounges and patios for student meetings. A barbershop and a laundry are located in the basement of the Union Building.

University and Law School Rules

Students are subject to the rules and regulations of the University and the Law School that are currently in effect, or those that in the future may be promulgated by the appropriate authorities of the University. Every student, in accepting admission, indicates a willingness to subscribe to and be governed by these rules and regulations. The student also acknowledges the right of the University to take such disciplinary action, including suspension and/or expulsion, as may be appropriate, for failure to abide by these rules and regulations, or for other conduct adjudged unsatisfactory or detrimental to the University.

Policy Concerning Pickets, Protests, and Demonstrations

Duke University respects the right of all members of the academic community to explore and to discuss questions that interest them, to express opinions publicly and privately, and to join together to demonstrate their concern by orderly means. It is the policy of the University to protect the exercise of these rights from disruption or interference.

The University also respects the right of each member of the academic community to be free from coercion and harassment, it recognizes that academic freedom is no less dependent on ordered liberty than any other freedom, and it understands that the harassment of others is especially reprehensible in a community of scholars. The substitution of noise for speech and force for reason is a rejection and not an application of academic freedom. A determination to discourage conduct that is disruptive and disorderly does not threaten academic freedom; it is, rather, a necessary condition of its very existence. Therefore, Duke University will not allow disruptive or disorderly conduct on its premises to interrupt its proper operation. Persons engaging in disruptive action or disorderly conduct shall be subject to disciplinary, suspension and/or expulsion, and also to charges of violations of law.

The foregoing general statement of policy is not to be construed as limiting the University's right to maintain an atmosphere conducive to scholarship.

Motor Vehicle Registration

Each motor vehicle operated on Duke University campuses by students enrolled in the Law School must be registered at the traffic office, 2010 Campus Drive, within five days after operation on the campus begins, and thereafter must display the proper registration decal. An annual registration fee of \$20 will be charged for each automobile and \$10 for each motorcycle.

To register a vehicle, the student must present the following documents: (1) valid state registration for vehicle registered, and (2) valid state operator's license.

Parking, traffic, and safety regulations will be given to each student at the time of vehicle registration. Students must agree to abide by these regulations in exchange for the privilege of operating a motor vehicle on the campus.

The Honor System

The honor system of the Duke Law School demands the highest standards of academic and professional conduct. It is embodied in a student judicial code and enforced by a student court.

Honorary, Professional, and Social Organizations

Order of the Coif. The Order of the Coif is a national legal scholarship society with a local chapter at Duke University School of Law. Its purposes are "to foster a spirit of careful study and to mark in a fitting manner those who have attained a high grade of scholarship." Election is restricted to students standing scholastically in the highest 10 percent of the graduating class.

The Duke Bar Association. The Duke Bar Association coordinates the professional, social, and other extracurricular activities of the student body. The association resembles in its composition and purpose both a university student government and a professional bar association. It publicizes Law School activities, sponsors athletic and social programs, and disperses its dues fund among the school's organizations.

Legal Research Program. The Legal Research Program, supervised by a student editorial board, provides second- and third-year students with an opportunity to prepare legal memoranda on actual problems submitted by practicing lawyers, judges, or legislative committees.

Moot Court Board. The Moot Court Board is composed of second- and third-year students who are chosen on the basis of their performances in intramural moot court competition. The board supervises the Hardt Cup and the Dean's Cup Competitions. In addition, the board provides personnel for teams entering intercollegiate competition. In 1975, a team from the Duke Moot Court Board won the prestigious National Moot Court competition, and in 1976, a Duke team placed second in that competition.

Duke Law Forum. The Duke Law Forum, through films, seminars, and speakers, traditionally seeks to stimulate and educate debate on national and legal issues. Programs in recent months have included lectures on American Indian law and a panel discussion of U.S. foreign affairs and defense policies. The forum has also sought to provide intellectual respite from the law by sponsoring lectures in various topics in literature, history, and philosophy.

International Law Society. Membership in the Duke International Law Society is open to the entire law student body. The society sponsors an annual distinguished speaker series with lecture topics ranging from the law of warfare to peace negotiations, from the law of the seas to space law. The scope is limited only by the interests of the society members and the student body at large. The society is currently exploring joint programs with local law schools, overseas study alternatives, and contributorships to international law journals throughout the country. Other activities include participation in the annual Philip C. Jessup International Moot Court Competition and attendance at conferences sponsored by the Association of Student International Law Societies.

Women's Law Society. Women's Law Society provides a central organization through which women law students can meet to form friendships and to share

problems unique to women in the legal profession. The group works as a clearinghouse for information in areas of particular concern to women through bulletin board notices and informal presentations at monthly potluck supper meetings. The group also communicates with women's groups in other law schools in North Carolina. During the 1981-82 school year, WLS sponsored a panel presentation of the women law faculty and another presentation of women in litigation.

Black American Law Students Association. The Law School chapter of Balsa is affiliated with the regional and the national Balsa. The aims of the local chapter are to provide a responsive student organization to aid the individual black law student at Duke and to instill a greater awareness of and commitment to the needs of the black community.

American Bar Association's Law Student Division. The ABA/LSD, active in virtually every law school in the country, is the way for law students to make contact with the nation's largest professional association for lawyers, the American Bar Association. A member of the Fourth Circuit, along with the law schools of Virginia, West Virginia, and North and South Carolina, Duke has played a strong leadership role in the circuit as well as at the national level of the division. A small enrollment fee entitles the Law Student Division member to a subscription to the ABA magazine *Student Lawyer*, to inexpensive ABA-sponsored health insurance, and to information about the ABA's programs and publications on specialized areas of the law. The ABA/LSD also promotes various advocacy and essay contests throughout the school year.

Forum for Legal Alternatives. The FLA is made up of students from all three classes who are interested in information about less traditional legal careers. In the past few years the FLA has brought lawyers to the Law School to speak on legal services, environmental law, union labor law, child advocacy, government work, and setting up a solo practice after law school. The group runs the Student Funded Fellowship, which collects donations from law students to provide public interest internships for several students each summer, and it also works with the Placement Office to provide information on employment opportunities in the public interest fields. The FLA maintains contacts with the North Carolina chapter of the National Lawyers' Guild and other public interest and civil rights groups in the area, and sponsors a VITA program in which student volunteers help low-income people prepare their tax returns. And as a respite from its serious work, the FLA has a potluck picnic each semester and runs a Law School volleyball league.

Devil's Advocate. The *Devil's Advocate* is the publication of the students of the Law School. The aim of the *Advocate* is to combine a variety of articles and editorials concerning all aspects of law school life with satirical and humorous articles, anecdotes, caricatures, and cartoons to provide a light-hearted yet thought-provoking break in the Law School routine. The *Devil's Advocate* staff consists of an editor-in-chief, assistant editors, and contributors. All students, faculty, and administrators are invited to participate.

Duke Law Band. The band, which always welcomes new members, is an informal and leisurely group of law students who periodically get together to play jazz, ragtime, and beerhall music. The band plays at many of the Law School's major social affairs.

Legal Fraternities. The two legal fraternities are Hughes Inn of Phi Delta Phi and Wiley Rutledge Chapter of Phi Alpha Delta. These organizations sponsor luncheons, meetings featuring topics of professional interest, and several other social activities.

Employment Opportunities

The study of law is demanding. It is designed to occupy the full time of the student and calls for the highest level of concentration. It is unwise for students to dilute their efforts by outside work, especially during the critical first year of study.

For those who find some outside earnings necessary to meet the expense of studying law at Duke and who qualify for the college work/study program under applicable federal regulations, arrangements have been made to provide some part-time employment in the Law School. A number of positions in the law library are filled by law students. Students are often employed in their second and third years as research assistants for faculty members. The University maintains a general placement office to aid in finding employment, and law students may serve as undergraduate residence advisers if they have been at Duke one year or have previously held such positions.

The opportunities for employment in the University and surrounding community are as good for spouses of law students who are teachers, computer programmers, secretaries, or nurses as in most other areas of the country. Other types of desirable positions are also available. A list of superintendents of schools in nearby districts is contained in the Duke Law School Handbook. The University personnel office and the Medical Center personnel office assist interested persons in locating suitable employment on campus.

Entertainment and Recreation

Students of the Law School are entitled to use the University gymnasiums, tennis courts, swimming pools, golf course, and other recreational facilities. Within a short distance from the campus are facilities for horseback riding, woodland hiking, and sailing. Other opportunities for physical activity are available in the intramural program, as well as through such activity groups as the outing, sailing, and cycling clubs. North Carolina's mild climate makes most outdoor sports possible during much of the school year. The Appalachian ski slopes are about three and a half hours to the west, the Outer Banks the same distance to the east.

University athletic contests are held on the campus at various times during the academic year. Duke is a member of the Atlantic Coast Conference.

Appendix A

Former Schools of Duke Law Students

Albion College	1	Georgetown University	5
Alexandria University	1	George Washington University	2
Allegheny College	1	Georgia State University	1
Amherst College	2	Golden Gate University	1
Antioch College	2	Goucher College	1
Antioch School of Law	1	Hamilton College	1
Atlanta University	1	Harvard University	13
Auburn University	2	Haverford College	2
Baylor University	3	Howard University	3
Bob Jones University	2	Illinois State University	1
Boston College	6	Illinois Wesleyan University	1
Bowdoin College	1	Indiana University	5
Bradley University	1	International Christian University	1
Brandeis University	5	James Madison University	1
Brigham Young University	2	The Johns Hopkins University	6
Brooklyn College	1	Kalamazoo College	1
Brown University	9	Kansas State University	2
Bryn Mawr College	2	Kenyon College	1
Bucknell University	1	The King's College	1
California State Polytechnic	1	Knox College	1
California State University	1	Kuwait University	1
Calvin College	1	LaSalle College	1
Carleton College	1	Lawrence University	1
Carnegie-Mellon University	2	The Lebanese University	1
Case Western Reserve University	1	Lehigh University	1
Catholic University of America	1	London School of Economics	1
Central Michigan University	1	Loyola College	1
Centre College of Kentucky	1	Loyola University	1
Claremont Men's College	2	Manhattanville College	1
Clark University	1	Marquette University	1
Cleveland State University	1	Massachusetts Institute of Technology	3
Colgate University	8	Melodyland School of Theology	1
College of the Holy Cross	4	Mercer University	1
College of William and Mary	2	Miami University	9
College of Wooster	1	Michigan State University	1
Colorado College	1	Middlebury College	4
Colorado State University	1	Millsaps College	1
Columbia College	1	Mount Holyoke College	5
Columbia University	5	Mount Saint Mary's College	1
Connecticut College	1	Muhlenberg College	2
Cornell University	11	Nebraska Wesleyan University	1
Creighton University	1	New York University	3
Dartmouth College	6	North Carolina State University	5
Davidson College	5	North Dakota State University	1
DePaul University	1	Northwestern University	4
Dickinson College	3	Nyack College	1
Dominican House of Studies	1	Oberlin College	3
Drake University	1	Oberlin Conservatory	1
Drew University	2	Ohio State University	2
Duke University	54	Ohio University	3
Eastern Illinois University	1	Ohio Wesleyan University	2
Eckerd College	1	Oklahoma Baptist University	1
Eisenhower College	1	Oxford University	1
Emory University	2	Pace University	1
Emporia State University	2	Pennsylvania State University	2
Fairfield University	1	Pomona College	1
Florida State University	5	Portland State University	1
Fordham University	1	Princeton University	10
Franklin and Marshall College	1	Queens College of the City	
George Mason University	1	University of New York	3
George Peabody College	1	Radcliffe College	1
		Rice University	1

Rollins College	1	University of Miami	3
Rutgers University	1	University of Michigan	4
Saint Olaf College	1	University of Minnesota	2
Sarah Lawrence College	1	University of Mississippi	2
Smith College	4	University of Missouri	2
Southeast Missouri State University	1	University of New Haven	1
Southwestern at Memphis	2	University of New Mexico	1
Stanford University	2	University of North Carolina at Chapel Hill	19
State University of New York at Albany	2	University of North Carolina at Charlotte	1
State University of New York at Binghamton	12	University of Notre Dame	19
State University of New York at Buffalo	2	University of Oklahoma	2
State University of New York at Stony Brook	3	University of Pennsylvania	11
Stephens College	1	University of the Punjab	1
Stetson University	1	University of Queensland	1
St. John's College	1	University of Redlands	2
St. Lawrence University	2	University of Rochester	7
St. Louis University	1	University of the South	1
Swarthmore College	2	University of South Alabama	1
Syracuse University	4	University of South Carolina	4
Temple University	1	University of Southern Mississippi	1
Tennessee Technological University	2	University of South Florida	4
Tennessee Temple University	1	University of Sussex	1
Trevecca Nazarene College	1	University of Tennessee at Chattanooga	1
Trinity College of Connecticut	2	University of Tennessee at Knoxville	3
Tufts University	3	University of Texas	1
Tulane University	2	University of Tokyo	1
Union College	3	University of Toledo	2
United States Air Force Academy	3	University of Toronto	1
United States Military Academy	3	University of Utah	1
United States Naval Academy	4	University of Virginia	6
University Law College-Quetta	1	University of Washington	3
University of Alaska	1	University of Wisconsin	4
University of Alberta	1	University of Zurich	1
University of Arizona	1	Utah State University	1
University of California at Berkeley	5	Valparaiso University	2
University of California at Los Angeles	5	Vanderbilt University	4
University of California at Santa Barbara	1	Vassar College	1
University of Chicago	6	Victoria University of Wellington	1
University of Cincinnati	2	Virginia Military Academy	1
University of Colorado	3	Wabash College	2
University of Connecticut	2	Wake Forest University	5
University of Delaware	2	Washington and Jefferson College	1
University of Denver	1	Washington and Lee University	2
University of Florida	6	Wellesley College	1
University of Georgia	2	Wesleyan University	5
University of Hartford	1	West Chester State College	1
University of Illinois	1	Western Carolina University	1
University of Iowa	1	Western Washington University	1
University of Kansas	1	West Virginia University	1
University of Leyden	1	William Jewell College	1
University of Liberia	1	Williams College	2
University of Louisville	1	Wittenberg University	1
University of Madrid	1	Wofford College	2
University of Maryland	5	Wright State University	1
University of Massachusetts	5	Yale University	8

Appendix B

Home States of Duke Law Students

Alabama	9	California	24
Alaska	1	Colorado	5
Arizona	2	Connecticut	22
Arkansas	2	Delaware	5
		District of Columbia	3

Florida	37	New York	89
Georgia	15	North Carolina	52
Illinois	22	North Dakota	1
Indiana	9	Ohio	31
Iowa	3	Oklahoma	4
Kansas	6	Oregon	2
Kentucky	7	Pennsylvania	34
Maine	3	Puerto Rico	1
Maryland	23	Rhode Island	1
Massachusetts	10	South Carolina	18
Michigan	7	Tennessee	13
Minnesota	4	Texas	5
Mississippi	7	Utah	5
Missouri	10	Vermont	1
Nebraska	2	Virginia	5
Nevada	1	Virgin Islands	1
New Hampshire	2	Washington	1
New Jersey	26	West Virginia	3
New Mexico	3	Wisconsin	4

Foreign Countries

Australia	1	Liberia	1
Canada	1	The Netherlands	1
Chile	1	New Zealand	1
Egypt	1	Pakistan	1
England	1	Saudi Arabia	1
Japan	2	Spain	1
Jordan	1	Switzerland	1
Kuwait	1		



Appendix C

First-Year Class (Class of 1984)

Albright, Karen Melody, B.A. (University of Maryland), Ocean City, Maryland
Anderson, Kirk Henry, B.A. (University of California at Berkeley), Sacramento, California
Anesi, Joseph Michael, B.A. (University of Rochester), Liverpool, New York
Antipolo, Virginia Cella, B.A. (University of Washington), Seattle, Washington
Aviles, Karen Ann, B.A. (University of Denver), Colorado Springs, Colorado
Axelrod, Susan, B.A. (Wesleyan University), Bronx, New York
Badger, Kelley Jo, B.A. (University of Florida), Palm Beach Gardens, Florida
Baker, Charles Mark, B.A. (Yale University), Tulsa, Oklahoma
Barber, Diane Marie, B.A. (LaSalle College), Warminster, Pennsylvania
Bard, Doron David, B.A. (Cornell University), Tuckahoe, New York
Bartok, Michael Frederick, B.A. (Tufts University), Westfield, New Jersey
Beaujean, Patricia MG, B.A. (University of Notre Dame), Houston, Texas
Berman, Vicki L., B.A. (University of Florida), Maitland, Florida
Bernstein, Sol W., B.A. (Brandeis University), Fort Lee, New Jersey
Bickwit, Andrew Roy, B.A. (State University of New York at Albany), Woodmere, New York
Biehn, Gary Paul, B.B.A. (Temple University), Churchville, Pennsylvania
Blackwell, Thomas John, B.A. (St. Louis University), Webster Groves, Missouri
Brumbaugh, Karen Beth, B.S. (Northwestern University), Huntington, Indiana
Burke, Michael Francis, B.A. (Dartmouth College), Roslindale, Massachusetts
Butt, Jeffrey Drew, B.S. (Wharton School of The University of Pennsylvania), Plainview, New York
Callahan, Margaret Carter, B.A. (Drake University), Kansas City, Missouri
Cannon, Douglas Bruce, B.A. (University of Utah), Salt Lake City, Utah
Capute, Allan Armistead, B.A. (Johns Hopkins University), Baltimore, Maryland
Chisolm, Larry, A.B. (Duke University), Savannah, Georgia
Christie, James Sturgeon, B.A. (Southwestern at Memphis), Birmingham, Alabama
Church, Sanford Allan, B.A. (Wake Forest University), Albion, New York
Claveloux, Ronald Louis, B.S.F.S. (Georgetown University), Madison, Connecticut
Cohen, David Roy, B.S.B.A. (University of Florida), Miami, Florida
Cohen, Steven Aaron, B.A. (University of Pennsylvania), Roslyn, New York
Coleman, Arthur Lee, B.A. (University of Virginia), Pamplico, South Carolina
Connors, Rose, B.A. (Mount Saint Mary's College), Philadelphia, Pennsylvania
Cook, Roger Mohr, B.A. (Haverford College), Raleigh, North Carolina
Curran, Kris Evan, B.A. (Bradley University), Bensenville, Illinois
Cusano, Mary Anne, B.A. (Cornell University), Manhasset, New York
Davis, Gardner Fabian, A.B. (Dartmouth College), Jacksonville, Florida
Dobben, Brian Lee, B.A. (Valparaiso University), South Holland, Illinois
Drake, Jonathan Lyman, B.A. (Middlebury College), Falmouth, Maine
Dunfee, Dirk, B.A. (Claremont Men's College), Yorba Linda, California
Egan, John Scott, B.A., M.A. (Johns Hopkins University), Louisville, Kentucky
Eggert, David Stewart, B.A. (Loyola University), Tampa, Florida
Farrell, David Joseph, Jr., B.A. (Williams College), M.P.A. (Columbia University), Chatham, Massachusetts
Feher, David Gerard, B.A. (Georgetown University), Pittsburgh, Pennsylvania
Fincher, Joseph Davis, B.A. (University of Notre Dame), Searcy, Arkansas
Firestone, Bruce Michael, B.A. (Colgate University), M.A., Ph.D. (University of North Carolina at Chapel Hill), Chapel Hill, North Carolina
Fitzgerald, Donald Ray, B.S., M.A. (University of Oklahoma), Oklahoma City, Oklahoma
Flick, Amy Marie, B.A. (Mercer University), Macon, Georgia
Florian, Kurt Wilhelm, B.A. (University of Chicago), Wheaton, Illinois
Frankel, Gusti Wiesenfeld, B.A. (University of California at Berkeley), Ph.D. (University of Minnesota), Los Angeles, California
Frischbutter, Daniel Arthur, B.A. (Valparaiso University), Munster, Indiana
Frost, William Dolan, II, B.S. (United States Naval Academy), Sault Ste. Marie, Michigan
Gales, Ann Margaret, B.A. (University of Notre Dame), Glenview, Illinois
Gay, Cathy Ann, B.A. (North Carolina State University), Saratoga, North Carolina
Geck, Duane Michael, B.A. (Colgate University), Overland Park, Kansas
Gendron, Jay William, B.A. (University of Notre Dame), Appleton, Wisconsin
Gerr, Pamela, B.A. (Franklin and Marshall College), Hoboken, New Jersey
Gershanov, Ellen Beth, B.A. (University of Michigan), Lincolnwood, Illinois
Goodman, Mark Jay, B.A. (Georgetown University), Atlanta, Georgia
Grogan, David Mills, B.S. (Florida State University), Ormond Beach, Florida
Gruver, Jonathan Andrew, A.B. (Ohio University), M.P.A. (Indiana University), Monticello, Minnesota

Harrison, Louis Stuart, B.A. (Colgate University), Glencoe, Illinois
 Harvey, Michael Thomas, B.A. (College of the Holy Cross), Brighton, Massachusetts
 Hausler, Ellen Elizabeth, B.A. (Mount Holyoke College), Miami, Florida
 Hayes, Reba Juanita, B.A. (Howard University), Winston-Salem, North Carolina
 Headley, Darah Sue, B.A. (University of Michigan), Ashland, Ohio
 Hills, Julie, B.A. (University of Notre Dame), Sylvania, Ohio
 Horowitz, Mitchell Ira, B.S. (State University of New York at Binghamton), Bellmore, New York
 Hotz, Mark Bennett, B.A. (University of Pennsylvania), Pikesville, Maryland
 Hoyt, James Grier, B.A. (University of Georgia), Dunwoody, Georgia
 Hull-Simmons, Finesse Grace, B.A. (North Carolina State University), New Bern, North Carolina
 Jack, Gary Adamson, B.S. (Miami University), Columbus, Ohio
 Jameson, John Howard, B.A. (Millsaps College), Eupora, Mississippi
 Jarman, Michael Gerard, A.B. (Princeton University), Pottstown, Pennsylvania
 Jones, Andrea Denise, B.A. (Pace University), New York, New York
 Jones, David Wayne, B.A.A.S. (University of Delaware), Dover, Delaware
 Katz, Diane Ellen, B.A. (State University of New York at Binghamton), Bloomfield, New Jersey
 Kay, Joanne Frances, B.A. (University of Notre Dame), Pittsburgh, Pennsylvania
 Kerwin, Gregory Joseph, B.A. (Colorado College), Denver, Colorado
 Kipnis, Laura Jean, A.B. (Brown University), Clayton, Missouri
 Klein, Katharine Lord, B.A. (Brown University), New York, New York
 Kramer, Paul Allyn, B.A. (Wesleyan University), West Hartford, Connecticut
 Krebs, Kenneth Jeffrey, A.B. (Cornell University), Canfield, Ohio
 Larson, Lauren Ann, B.A. (Miami University), Middletown, Ohio
 Laupheimer, Ann Blair, A.B. (Princeton University), Haverford, Pennsylvania
 Leaf, Marc Andrew, A.B. (Harvard College), Hastings-on-Hudson, New York
 Lee, Kyung Shik, B.A., M.A. (Duke University), Houston, Texas
 LeGrand, Donna Gayle, B.S. (Portland State University), Portland, Oregon
 Lepper, Steven Joseph, B.S. (United States Air Force Academy), M.P.A. (Golden Gate University),
 Victorville, California
 Levenson, Paul Joshua, A.B. (Brown University), Worcester, Massachusetts
 Levine, Allen S., B.S., M.A. (Syracuse University), Paramus, New Jersey
 Lips, David Alan, B.A. (St. Lawrence University), St. Simons Island, Georgia
 Livingston, Scott David, B.A. (Cornell University), Liverpool, New York
 Lockwood, David Michael, B.A. (Swarthmore College), M.B.A. (Cornell University), Silver Spring,
 Maryland
 Loeb, Christopher Wendel, B.A. (Davidson College), Gainesville, Georgia
 Macfarlane, Kirk Robert, B.A. (Colgate University), Kensington, Connecticut
 Mackie, Arthur William, B.A. (Washington and Lee University), Chevy Chase, Maryland
 Mackson, Lee Douglas, B.A. (Pennsylvania State University), Palmerton, Pennsylvania
 Malkinson, Carol Ellen, B.A. (University of Wisconsin), Evanston, Illinois
 Mark, Loren Brian, B.A. (California State University), Lynwood, California
 Marsh, Andrew Charles, B.A. (Indiana University), Muncie, Indiana
 McCorkle, Pope, III, B.A. (Princeton University), Memphis, Tennessee
 McFarland, George Conrad, Jr., A.B. (Princeton University), Haverford, Pennsylvania
 McGrady, Mark Ennis, A.B. (Wabash College), Hillsboro, Indiana
 McKibbin, Audrey Lyn, B.S. (Syracuse University), Walnut Creek, California
 McKissick, Floyd Bixler, Jr., A.B. (Clark University), M.R.P. (University of North Carolina at Chapel
 Hill), M.P.A. (Harvard University), Soul City, North Carolina
 McKnight, DeLoss, B.A. (Eckerd College), Wynne, Arkansas
 McLoughlin, Karen Lee, B.A. (Boston College), North Brunswick, New Jersey
 Meister, Julie Beth, B.A. (Duke University), Hollywood, Florida
 Mellgard, David Morse, B.A. (Colgate University), Pittsburgh, Pennsylvania
 Meredith, Dwight Alan, B.S. (Duke University), Winston-Salem, North Carolina
 Miller, Dawn Ann, B.S. (The King's College), Tampa, Florida
 Mirkin, Mark Harris, A.B. (Duke University), Baldwin, New York
 Monyak, Robert Paul, B.S. (University of Notre Dame), Monaca, Pennsylvania
 Mozenter, Michael Jay, B.A. (Duke University), Vineland, New Jersey
 Natko, Steven Paul, A.B. (Duke University), West Caldwell, New Jersey
 Nelson, Helen Irene, B.A. (Columbia College), Columbia, South Carolina
 Newman, John David, A.B. (Duke University), Annandale, Virginia
 Norden, Eugene Anthony, B.A. (Wesleyan University), New York, New York
 Novick, Jerold Jay, B.S. (University of Pennsylvania), Penn Valley, Pennsylvania
 Orloff, Gordon Matthew, A.B. (Colgate University), Shaker Heights, Ohio
 Pardo, Stevan Joseph, B.A. (Duke University), Miami Beach, Florida
 Perper, Alan Bruce, B.B.A. (University of Massachusetts at Amherst), Skokie, Illinois
 Petrou, Peter, B.A. (Bucknell University), Hewitt, New Jersey
 Plissey, Steven David, B.S. (North Dakota State University), Presque Isle, Maine

Polichene, Briget Mary, B.A. (Johns Hopkins University), Ravenna, Ohio
 Pursley, Evelyn Marie, B.A., M.L.S. (University of Oklahoma), Oklahoma City, Oklahoma
 Redlich, Edward Grobow, B.A. (Harvard College), New York, New York
 Reichert, Teresa Jeanne, B.A. (University of Notre Dame), St. Paul, Minnesota
 Reidy, William Keith, B.S. (Boston College), Bedford, Massachusetts
 Reinsch, Margaret Jean, B.S. (Western Washington University), Dayton, Ohio
 Rerucha, Cynthia Lynn, B.A. (University of Toledo), Perrysburg, Ohio
 Rhodes, David Paul, B.S. (Florida State University), North Miami Beach, Florida
 Riordan, Robert Patrick, A.B. (Duke University), Durham, North Carolina
 Robbins, Robert James, Jr., B.A. (University of Virginia), Tampa, Florida
 Rogers, Daniel Garron, B.A. (University of South Carolina), Lakeview, South Carolina
 Rosenow, Patrick Michael, B.S. (United States Air Force Academy), Monument, Colorado
 Rybarczyk, Kathryn Ann, B.A. (University of Miami), Lockport, New York
 Safran, Vicki Lynn, B.A. (Carnegie-Mellon University), North Huntingdon, Pennsylvania
 Samaha, Steven Malouf, B.A. (Wake Forest University), St. Petersburg, Florida
 Sapp, Judith Ellery, Chevy Chase, Maryland
 Schooley, Wilson Adam, B.A. (University of California at Santa Barbara), Berkeley, California
 Schreiber, Howard Eric, B.A. (Dickinson College), Baltimore, Maryland
 Scolari, Steven, B.A. (Drew University), Glen Rock, New Jersey
 Scott, Nancy Ebert, A.B. (Duke University), Durham, North Carolina
 Shapiro, Charles Lawrence, B.S. (University of Maryland), Great Neck, New York
 Simpson, Charles Robert, B.A. (University of California at Los Angeles), La Habra, California
 Sirna, Angela Marie, B.A. (Fordham University), Brooklyn, New York
 Smith, John Franklin, B.A. (Stanford University), M.B.A. (Dartmouth College), Atlanta, Georgia
 Smith, Lori Suzanne, B.A. (University of Rochester), Dix Hills, New York
 Sokul, John Henry, Jr., B.A. (College of the Holy Cross), Newport, New Hampshire
 Speth, Patricia Anne, B.A. (Duke University), M.A. (University of South Carolina), Marion, South Carolina
 Spitzmueller, Lawrence Joseph, B.B.A. (University of Cincinnati), Cincinnati, Ohio
 Stave, Gregg Martin, S.B. (Massachusetts Institute of Technology), Manhasset Hills, New York
 Stively, Robert Wilcox, B.A. (Cornell University), M.A. (University of Chicago), Coatesville, Pennsylvania
 Stolee, Anne Marie, B.A. (Yale University), Fox Point, Wisconsin
 Stonerock, Jeffrey Alan, B.S. (United States Military Academy), Troy, Ohio
 Sueta, Edward, B.A. (Boston College), Bloomfield, New Jersey
 Swenson, Rebecca Ellen, B.A. (State University of New York at Stony Brook), East Northport, New York
 Thuma, David T., B.A. (University of Chicago), Indianapolis, Indiana
 Tobin, Barbara R., B.A. (Emory University), Philadelphia, Pennsylvania
 Toms, Robert Lee, B.A. (Claremont Men's College), South Pasadena, California
 Van Arsdale, Stephen Royle, B.A. (Eisenhower College), Auburn, New York
 Verniero, Peter Gerald, B.A. (Drew University), Pine Brook, New Jersey
 Vieth, Robert R., B.A. (Duke University), Chevy Chase, Maryland
 Vingan, Howard Frederick, B.A. (State University of New York at Binghamton), Howard Beach, New York
 Weed, Michael Herbert, B.A. (Brown University), Portsmouth, New Hampshire
 Weirich, Charles Geoffrey, B.A., M.L.I.R. (Michigan State University), Schnecksville, Pennsylvania
 Weiss, Eric Martin, B.S. (New York University), M.B.A. (University of Chicago), Brooklyn, New York
 Wheeler, Leslie Anne, B.A. (State University of New York at Stony Brook), Port Washington, New York
 Wick, Carlotta Elizabeth, A.B. (Smith College), Greenwich, Connecticut
 Williams, Mark Kendall, B.S. (Western Carolina University), Robbinsville, North Carolina
 Williamson, Martha Jane, B.A. (Harvard College), Wayland, Massachusetts
 Wold, Ted William, B.A. (University of Texas at Austin), Dallas, Texas
 Wood, Lauren Faith, B.A. (Vanderbilt University), Mobile, Alabama
 Wright, Elizabeth Blackwell, B.A. (College of William and Mary), Wheeling, West Virginia
 Wright, William Emerson, B.S. (Trinity College), M.Div. (Melodyland School of Theology), Bexley, Ohio
 Ziska, Jennifer Page, B.A. (Duke University), Durham, North Carolina
 Zletz, Richard Stephen, B.A. (University of Massachusetts), New York, New York

Second-Year Class (Class of 1983)

Addison, Robba Marie, B.S. (William Jewell College), Independence, Missouri
 Anders, Jeffrey Michael, B.A. (Duke University), Rockville, Maryland
 Anderson, Gwendolyn Sue, B.A. (Florida State University), Loganville, Georgia

Annalora, Joel Christian, B.S. (Illinois State University), Glen Carbon, Illinois
 Ansilio, Lisa Pierre, B.S. (Lehigh University), Kingston, Pennsylvania
 Baker, Dean Warren, B.A. (Duke University), Woodbridge, Connecticut
 Baer, Richard Norman, B.A. (Columbia College), New York, New York
 Battuello, Kathryn Marie, B.A. (University of New Mexico), Alameda, New Mexico
 Benfer, James R., Jr., A.B. (University of California at Los Angeles), Rolling Hills, California
 Benhart, Gary Len, B.S.I.E. (University of Iowa), Cedar Rapids, Iowa
 Berger, James Lawrence, B.A. (Duke University), Chattanooga, Tennessee
 Berman, Alan Byron, B.A. (Duke University), Northridge, California
 Bernstein, Robin Sue, A.B. (Duke University), Bethesda, Maryland
 Bishop, Mark William, B.S. (Georgia State University), College Park, Georgia
 Blackburn, Katherine Elise, A.B. (Princeton University), Maitland, Florida
 Blancato, William Alfred, B.A. (Queens College), Flushing, New York
 Blisk, David Lloyd, B.S. (United States Air Force Academy), M.B.A. (Wright State University), Elkhart, Indiana
 Blumer, Celeste Hubby, B.A. (Rice University), Durham, North Carolina
 Blythe, Dean Hite, B.S. (Miami University), Worthington, Ohio
 Breitbeil, Kenneth Richard, B.A. (DePaul University), Arlington Heights, Illinois
 Brewer, Katherine Kristin Cornelia, B.A. (Yale University), Old Saybrook, Connecticut
 Brody, Neal Stephen, B.A. (Wesleyan University), Waterford, Connecticut
 Brookfield, William Lord, III, B.A. (University of South Florida), Ormond Beach, Florida
 Brown, Duane Edward, B.A. (Colorado State University), Yuma, Colorado
 Buckingham, David Todd, A.B. (Duke University), Bethesda, Maryland
 Burke, Mary Jane, B.A. (University of Connecticut), West Hartford, Connecticut
 Busse, Robert Louis, A.B. (Harvard University), Toledo, Ohio
 Cahoon, Dianne, A.B., B.S., (Stanford University), Roswell, New Mexico
 Calvert, Mark Steven, A.B. (Duke University), Worthington, Ohio
 Carson, Mary Alice, B.A. (University of Minnesota at Duluth), Duluth, Minnesota
 Carter, Jean Gordon, B.S. (Wake Forest University), Monroe, North Carolina
 Chaffin, David Bancroft, B.A. (Amherst College), Worcester, Massachusetts
 Cleary, Lisa Elaine, B.A. (Harvard University), Durham, North Carolina
 Clever, Ronald Lance, B.A. (Muhlenberg College), Allentown, Pennsylvania
 Cole, Susan J., B.A. (Vassar College), M.A. (Tufts University), West Hartford, Connecticut
 Collier, Garth Christopher, B.A. (University of California at Los Angeles), Beverly Hills, California
 Combs, Joseph John, III, B.A. (University of Colorado), Rochester, Minnesota
 Curtin, Thomas Andrew, B.A. (Duke University), Southboro, Massachusetts
 Daniels, Linda Markus, B.A. (Duke University), M.A. (Johns Hopkins University), Durham, North Carolina
 Davis, Rebecca Wilson, A.B. (Muhlenberg College), Phoenixville, Pennsylvania
 Diamant, Violet, B.A. (St. John's University), Astoria, New York
 Dibble, Jennifer Maher, B.A. (Smith College), Durham, North Carolina
 Dinowitz, Jay Martin, B.A. (University of Massachusetts), Oceanside, New York
 Elder, Mack Timothy, A.B. (University of Georgia), Athens, Georgia
 Empson, Nicholas, B.A. (University of Sussex), Richmond, England
 Estelle, William Lee, B.B.A. (University of Alaska), Palmer, Alaska
 Farr, Michael Don, B.A. (Brigham Young University), Las Vegas, Nevada
 Faust, Emanuel, Jr., B.A. (University of South Carolina), Columbia, South Carolina
 Fedor, Frank Paul, B.A. (University of California at Berkeley), Piedmont, California
 Firestone, Matt Gary, B.S. (University of Florida), North Palm Beach, Florida
 Fletcher, Robert Parker, A.B. (Princeton University), Shawnee Mission, Kansas
 Forman, Seth Lee, A.B. (Princeton University), M.S. (Case Western Reserve University), Stamford, New York
 Fountain, Benjamin Eagles III, B.A. (University of North Carolina at Chapel Hill), Cary, North Carolina
 Friedman, Lawrence Leland, B.A. (State University of New York at Stony Brook), Lawrence, New York
 Friedman, Matthew Lewis, B.A. (University of Chicago), West Hartford, Connecticut
 Fuller, Robert Walker, B.S. (University of North Carolina at Chapel Hill), High Point, North Carolina
 Gagne, Clement Raymond III, B.A. (Duke University), M.A. (Middlebury College), Middlebury, Vermont
 Garbus, Richard Leonard, B.A. (Boston College), New York, New York
 Garver, John Baltzly, III, B.S. (United States Military Academy), West Point, New York
 Gladstone, Malcolm Brett, B.A. (Harvard University), New York, New York
 Glasscock, Sam, III, B.A. (University of Delaware), Wilmington, Delaware
 Goldman, Nathan Douglas, B.A. (Brandeis University), Jacksonville, Florida
 Goodkin, Kathleen Suzanne, B.A. (University of Pennsylvania), Lawrenceville, New Jersey
 Gourash, Daniel Francis, B.A. (University of New Haven), Rocky River, Ohio

Gray, Daniel Mark, B.A. (Trevecca Nazarene College), Ashland, Kentucky
 Gray, Roland Benton, A.B. (Kenyon College), M.A. (University of Rochester), Rochester, New York
 Green, Susan Bennett, B.A. (Kansas State University), Manhattan, Kansas
 Greenfield, Karyn Allison, B.S. (Duke University), Washington, D.C.
 Grieme, David Arthur, B.A. (Knox College), Galesburg, Illinois
 Griffith, Robert Hutchinson, Jr., B.S. (James Madison University), Annandale, Virginia
 Guttman, Mary Louise, A.B. (Smith College), Upper Montclair, New Jersey
 Hagenau, Wendy Layne, B.A. (University of Tennessee), Memphis, Tennessee
 Hainline, Theodore Ronald, B.A. (Duke University), Boca Raton, Florida
 Harmon, Richard Douglas, B.A. (Tulane University), Biloxi, Mississippi
 Harrington, Scott Dean, B.A. (University of Connecticut), Uncasville, Connecticut
 Hartzog, Deborah Hylton, B.A. (Baylor University), Fort Worth, Texas
 Hawley, Kevin Michael, B.A. (Syracuse University), Johnson City, New York
 Henshall, Charles Edward, B.A. (Colgate University), Westfield, New Jersey
 Herman, Edward Jayson, B.S., B.A.S., (University of Pennsylvania), Harrison, New York
 Hewitt, Randi Rauch, B.A. (University of Michigan), Kansas City, Missouri
 Hildebrand, Mary Jean, B.A. (Union College), Plattsburgh, New York
 Hilding, Paul Anders, B.A. (Ohio Wesleyan University), Price, Utah
 Hill, Kimberly Kay, B.A. (Baylor University), Grapevine, Texas
 Hock, Ronald Gregory, B.S. (State University of New York at Albany), Charlotte, North Carolina
 Hoffman, Jon Thomas, A.B. (Miami University) York, Pennsylvania
 Hoffner, Eileen Susan, B.A. (Tufts University), Lawrence, New York
 Holsinger, Lynn Ann, B.A. (Indiana University), Bloomington, Indiana
 Holter, Reid Alan, B.A. (St. Lawrence University), Fishers, New York
 Hoover, Craig Alan, B.A. (University of Redlands), Tehachapi, California
 Horn, Dawson, III, A.B. (Duke University), Huntsville, Alabama
 Hurst, Charles Wilson, B.A. (Wesleyan University), Northport, New York
 Hutchings, Jeffrey David, A.B. (Duke University), Deerfield, Illinois
 Jacobs, Marla Beth, B.A. (State University of New York at Binghamton), Queens Village, New York
 Jones, William Donald, III, B.A. (Vanderbilt University), Atlanta, Georgia
 Jordan, Nora Margaret, B.A. (University of Notre Dame), Cleveland, Ohio
 Katz, Daniel Franklin, B.A. (Williams College), Woodbridge, Connecticut
 Kerr, Christopher Charles, B.S. (Syracuse University), Buffalo, New York
 Knight, John Ruffin, B.A. (Wake Forest University), M.A. (University of North Carolina at Chapel Hill), Charlotte, North Carolina
 Koalkin, Sheila Eileen, B.S. (State University of New York at Binghamton), East Meadow, New York
 Kocela, Mark Leonard, B.A. (University of Massachusetts), Durham, North Carolina
 Kornblau, Kenneth James, A.B. (Duke University), Durham, North Carolina
 Kossoff, Kenneth Wayne, A.B. (University of California at Berkeley), Culver City, California
 Krausz, Robert Manuel, A.B. (Brown University), Yonkers, New York
 Kwart, Melinda J., B.A. (University of Wisconsin), Newark, Delaware
 Lampert, Michael Allen, A.B. (University of Miami), North Palm Beach, Florida
 Langer, Mark Joseph, B.A. (Kalamazoo College), Cockeysville, Maryland
 Lawrence, Betty Tenn, A.B. (Rollins College), Asheville, North Carolina
 Leo, Karl William, B.A. (University of Redlands), Huntsville, Alabama
 Levine, Nancy, B.A. (Duke University), Northfield, New Jersey
 Lindley, Gregory Earl, B.S., M.B.A. (Utah State University), Logan, Utah
 London, Jeffrey Lewis, A.B. (Haverford College), Shaker Heights, Ohio
 Magee, Richard David, B.A. (Oberlin College), Indiana, Pennsylvania
 Manning, Michael Patrick, B.A. (Georgetown University), Garden City, New York
 Markowitz, Robert, B.A. (Connecticut College), Rye, New York
 Mason, Christopher May, B.A. (University of North Carolina at Chapel Hill), Charlotte, North Carolina
 Mayo, Walker Porter III, B.A. (Washington and Lee University), Lexington, Kentucky
 McCarthy, Julian Daniel, B.S. (United States Naval Academy), Miami Springs, Florida
 McCutcheon, Patricia Beth, B.S., M.B.A. (West Virginia University), Parkersburg, West Virginia
 McInnis, John Darrell, B.A. (Harvard University), Durham, North Carolina
 Meredith, Coralyn Eva, B.A. (University of North Carolina at Chapel Hill), Atlanta, Georgia
 Moody, Christopher Murray, B.A. (George Washington University), Silver City, New Mexico
 Morris, Karen Lisa, B.A., M.A. (Yale University), Wilmington, Delaware
 Morris, Patrick Francis, B.S. (United States Military Academy), St. Petersburg, Florida
 Musilek, Hollis Ann, B.A. (University of Washington), Ames, Iowa
 Namba, Jerry, B.A. (University of California at Los Angeles), Pico Rivera, California
 Navin, Patrick Timothy, B.B.A. (University of Notre Dame), Clarendon Hills, Illinois
 Owens, Jerry Hale, B.A. (Duke University), St. Marys, West Virginia
 Parris, James Layton, B.A. (Wofford College), Spartanburg, South Carolina
 Patton, Jerry Lee, B.A. (University of Mississippi), Thaxton, Mississippi

Paul, David Lawrence, B.A. (Brown University), Holliswood, New York
 Peña, Carlos Edward, B.A. (Queens College of the City University of New York), Flushing, New York
 Peters, Stephen Chester, B.A. (Kansas State University), Manhattan, Kansas
 Petrik, Michael Thomas, B.S.B.A. (Eastern Illinois University), Ottawa, Illinois
 Pfister, Kaye Ann, B.A. (Miami University), M.A. (Ohio State University), Wooster, Ohio
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 Phillips, Deborah Ann, B.A. (New York University), Richmond Hill, New York
 Piercefield, David Stanley, B.A. (Wabash College), Indianapolis, Indiana
 Poirier, Omer Glenn, B.A. (Harvard University), Massena, New York
 Press, Marc Philip, B.A. (University of Rochester), New Rochelle, New York
 Prince, James Geoffrey, B.A. (Cornell University), Oradell, New Jersey
 Prince, John Randolph III, B.A. (Oklahoma Baptist University), M.A. (Baylor University), Shawnee, Oklahoma
 Prince, Rebecca Davis, A.B. (Muhlenberg College), Phoenixville, Pennsylvania
 Rassler, C. Scott, B.S. (Miami University, Ohio), Boca Raton, Florida
 Raup, Mitchell David, B.A. (University of Chicago), Chicago, Illinois
 Reilly, James Christopher, B.A., M.B.A. (University of Rochester), Rochester, New York
 Reiser, Walter Allen, III, B.A. (Harvard College), Columbia, South Carolina
 Richardson, Henry Smith III, B.A. (University of North Carolina at Chapel Hill), Southport, Connecticut
 Rigney, John Francis, B.A. (Boston College), Providence, Rhode Island
 Riley, Richard Franklin, B.A. (Yale University), Meridian, Mississippi
 Root, Rebecca Renee, B.S. (Ohio State University), Kettering, Ohio
 Rose, Stacy L., B.A. (Sarah Lawrence College), Mt. Vernon, New York
 Rosenthal, Lynn Ellen, B.A. (Brandeis University), Roslyn, New York
 Rubens, Douglas Richard, B.S. (University of Pennsylvania), Pittsford, New York
 Ruzinsky, Bruce Jay, B.A. (Duke University), Old Tappan, New Jersey
 Sanders, Laurence Jay, A.B. (Princeton University), Flushing, New York
 Schloemer, Jeffrey Scott, A.B. (University of Notre Dame), Cincinnati, Ohio
 Schohl, John Maisson, B.A. (University of Toledo), Maumee, Ohio
 Schwarz, Valerie Ann, A.B. (Barnard College of Columbia University), Astoria, New York
 Scioscia, David Michael, (Allegheny College), Sewickley, Pennsylvania
 Sharp, Sally Ann, B.A. (Duke University), Birmingham, Alabama
 Sheinis, Richard Neal, B.A. (State University of New York at Binghamton), Flushing, New York
 Sigman, Andrea Kate, B.A. (George Washington University), Jackson, Mississippi
 Simons, Serena Gray, B.A. (Duke University), M.S. (University of North Carolina at Chapel Hill), Durham, North Carolina
 Simser, Thomas Arthur, Jr., B.A. (Johns Hopkins University), San Diego, California
 Skibinsky, Clifford Grant, B.A. (University of Massachusetts), Pelham, Massachusetts
 Smith, Douglas Oakley, A.B. (Marquette University), Rockford, Illinois
 Smith, James Dale, B.A. (University of South Alabama), Mobile, Alabama
 Smith, Steven Thomas, B.A. (Davidson College), Warrenton, Georgia
 Spafford, Michael Lloyd, B.A. (State University of New York at Binghamton), Liverpool, New York
 Spector, Stephen Lowell, B.S. (University of Maryland), Baltimore, Maryland
 Spinrad, John Clay, B.A. (University of Virginia), Reading, Pennsylvania
 Sternklar, Jeffrey David, B.A. (State University of New York at Binghamton), Delmar, New York
 Stuart, Laura Elizabeth, B.A. (University of North Carolina at Chapel Hill), Basking Ridge, New Jersey
 Taylor, Melfred Edward, B.S.B.A. (University of Missouri), Columbia, Missouri
 Tisdale, Warren Lafayette, B.A. (Davidson College), Jacksonville, Florida
 Travers, Patrice Ann, B.A. (Cornell University), Canton, New York
 Uncapher, Kenneth Raymond, B.S. (Stetson University), Vallejo, California
 Victor, Beth Harte, B.A. (Mount Holyoke College), Homestead Air Force Base, Florida
 Volland, Jane, B.A. (Middlebury College), M.A. (New York University), Chapel Hill, North Carolina
 Warren, William Terry, A.B., M.A.P.A. (University of Illinois), Springfield, Illinois
 Wechter, Kathleen Ann, B.A. (State University of New York at Buffalo), Lancaster, New York
 Welch, John Robert, B.S. (Union College), Slingerlands, New York
 Westeen, Susan Elizabeth, B.A. (Oberlin College), Kingman, Arizona
 Willard, Beth Jean, B.A. (University of Notre Dame), Pittsburgh, Pennsylvania
 Williams, Andrew Barrett II, A.B. (Davidson College), Marianna, Florida
 Williams, Jay Warren, B.A. (Illinois Wesleyan University), Davis Junction, Illinois
 Williams, Kimberley Ann, B.A. (Tennessee Technological University), Cookeville, Tennessee
 Wilson, Rebecca Strawn, B.A. (University of South Florida), St. Petersburg, Florida
 Woodruff, Carolyn Johnson, B.A. (Tennessee Temple University), M.A. (Bob Jones University), Lexington, North Carolina
 Wyngaarden, Robert Martin, B.A. (Calvin College), Grand Rapids, Michigan

Wyngaarden, Susan Marie, B.A. (University of Alberta), Grand Rapids, Michigan
 Wynn, Bruce Hinson, B.S. (Duke University), Memphis, Tennessee
 Yeoh, Rosemary Hsuen, B.A. (Wellesley College), New York, New York
 Zalph, David Alan, B.S. (Duke University), Highland Beach, Florida
 Zimkus, Valerie Agatha, A.B. (Mt. Holyoke College), M.S.W. (University of Maryland), New
 Canaan, Connecticut
 Zisk, Robert Louis, B.S. (Cornell University), Easton, Pennsylvania
 Zych, Thomas Francis, B.A. (Miami University), Canton, Ohio

Third-Year Class (Class of 1982)

Adler, Clifford Robin, B.A. (Harvard University), M.Sc. (London School of Economics), New York,
 New York
 Alexander, Josie Anne, B.A. (Duke University), Seneca, South Carolina
 Anwyll, James Bradford, B.A. (Johns Hopkins University), Boynton Beach, Florida
 Ballard, Wade Edward, B.A. (Wofford College), Greenville, South Carolina
 Barringer, Stanley Park, B.A. (Nyack College), Bricktown, New Jersey
 Bauman, James Edison, B.A. (Albion College), Battle Creek, Michigan
 Beaver, Gary Lee, B.S. (United States Naval Academy), Havelock, North Carolina
 Bell, Albert Fleming, II, B.A. (Duke University), M.R.P. (University of North Carolina at Chapel
 Hill), Durham, North Carolina
 Booker, Harris T., B.S. (Pennsylvania State University), M.A. (West Chester State College), West
 Mifflin, Pennsylvania
 Burford, David Richmond, B.S. (University of Missouri), Cape Girardeau, Missouri
 Carter, Demetria Theresa, B.S. (George Mason University), Alexandria, Virginia
 Carter, Glenn Joseph, B.A. (Duke University), Santiago, Chile
 Carver, Joseph Phillip, B.S. (University of Tennessee at Chattanooga), Chattanooga, Tennessee
 Casey, Patricia Anne, B.A. (University of Michigan), M.A. (University of Rochester), Redford,
 Michigan
 Champlin, Michael Sherer, B.A. (Southwestern at Memphis), Memphis, Tennessee
 Chenkin, David Barry, B.A. (Queens College), Flushing, New York
 Christensen, Dirk Glen, B.A. (Brigham Young University), Sandy, Utah
 Cohen, Ruth Schiff, B.A. (Princeton University), Woodmere, New York
 Collingsworth, Terrence Patrick, B.A. (Cleveland State University), Willoughby, Ohio
 Collins, Nina Francine, B.S. (Central Michigan University), Traverse City, Michigan
 Connor, Lawrence Sidney, B.A. (Bob Jones University), Durham, North Carolina
 Cook, Dale Daniel, B.A. (Trinity College of Connecticut), Rocky River, Ohio
 Cotorceanu, Peter Andreas, LL.B. (Victoria University of Wellington), Wellington, New Zealand
 Crook, Penny Joanne, B.A. (University of South Florida), Durham, North Carolina
 Dalton, James Michael, B.A. (University of Louisville), Paducah, Kentucky
 Darby, Michael Martin, B.A. (University of Hartford), Manchester, Connecticut
 Davenport, Kim Lori, B.A. (Duke University), Columbia, North Carolina
 Davis, Edward Brian, A.B. (Indiana University), Louisville, Kentucky
 Degen, Barbara Jean, A.B. (Bryn Mawr College), Sewanee, Tennessee
 DeLong, Margaret Ann, B.S. (University of Rochester), Mexico, New York
 Dinkins, Valerie Robinson, A.B. (Radcliffe College), Durham, North Carolina
 Dorvee, Stephen Melvin, B.A. (Dartmouth College), South Glens Falls, New York
 Dougherty, Robert Louis, B.A. (Columbia University), Garden City, New York
 Dukelow, Ruth Harriet, B.A. (Washington and Jefferson College), M.S.L.S. (Catholic University of
 America), Washington, Pennsylvania
 Dumas, Dennis Roman, B.S. (Duke University), Cornwells Heights, Pennsylvania
 Eason, Paul Brooks, B.A. (University of Mississippi), Tupelo, Mississippi
 Edwards, William David, B.S. (University of North Carolina at Chapel Hill), Winston-Salem, North
 Carolina
 Ellison, Morris Arthur, B.A. (Yale University), Charleston, South Carolina
 Emery, Karen Lee, A.B. (Bowdoin College), Bloomington, Indiana
 Ervin, Carol Brittain, B.A. (University of the South), Cheraw, South Carolina
 Esbin, Barbara Sara, B.A. (Antioch College), Rockville Centre, New York
 Evans, Richard Wilson, B.S. (Auburn University), M.S. (University of Colorado), Auburn, Alabama
 Ewing, Thomas Merrill, A.B. (Hamilton College), Canandaigua, New York
 Fagin, Vernon Allen, B.A., M.A., Ph.D. (University of California at Los Angeles), North Hollywood,
 California
 Felman, David Samuel, B.A. (Wake Forest University), Gainesville, Florida
 Finke, Harry John, IV, B.A. (Brown University), Cincinnati, Ohio
 Fittipaldi, Mark F., B.A., M.A., Ph.D. (Yale University), Bethesda, Maryland
 Forlines, John Arthur, III, B.A. (Duke University), Granite Falls, North Carolina
 Foster, Richard Hugh, B.S.B. (University of Kansas), Washington, Kansas

Friday, Mary Howell, B.A. (University of North Carolina at Chapel Hill), Chapel Hill, North Carolina

Friedman, Bernard Harvey, B.A. (University of California at Berkeley), Malibu, California

Fulton, Anne Elizabeth, B.A. (Carleton College), Kewanee, Illinois

Gallanty, Alan Todd, B.A. (State University of New York at Binghamton), Brooklyn, New York

Galloway, Elizabeth Agnew, B.A. (College of William and Mary), Greenville, South Carolina

Gandy, Nanette, B.A. (Marquette University), Memphis, Tennessee

Goetsch, Scott Douglas, B.A. (Duke University), Chatsworth, California

Goldstein, Ronald Lee, B.A. (Brown University), Huntington, New York

Gonzales, Margaret Hayba, B.A. (College of Wooster), Cleveland, Tennessee

Goodwin, Peter Wentworth, B.A. (Duke University), Greensboro, North Carolina

Grady, Thomas Roland, B.S. (Florida State University), Rockledge, Florida

Greene, Charles Scott, B.A. (Vanderbilt University), Woodside, California

Guest, John Faulkner, B.A. (Oberlin College), B.Mus. (Oberlin Conservatory), La Jolla, California

Gunn, Fern Elaine, B.A. (Duke University), Durham, North Carolina

Hale, Thomas Andrew, B.A. (Northwestern University), Appleton, Wisconsin

Halio, Andrew Steven, B.A. (Duke University), Charleston, South Carolina

Hardiman, John Louis, B.A. (Fairfield University), Bridgeport, Connecticut

Hardin, Paul Russell, B.A. (University of Virginia), Madison, New Jersey

Harrison, John Sloane, B.A. (University of North Carolina at Chapel Hill), Wilmington, Delaware

Hawkins, James Barrett, B.A. (Centre College of Kentucky), M.S. (George Peabody College), Gallatin, Tennessee

Hays, Martha Joan, B.B.A. (University of Wisconsin), Glen Arm, Maryland

Hearn, Steven Lee, B.S. (Florida State University), Panama City, Florida

Hofstetter, Richard Ryan, A.B., M.A. (Indiana University), McKeesport, Pennsylvania

Holding, Reynolds Walker, A.B. (Harvard College), Larchmont, New York

Hollin, Jonathan Keith, B.S., B.A. (Wharton School/University of Pennsylvania), Ambler, Pennsylvania

Holt, David Thomas, B.A. (Southeast Missouri State University), Cape Girardeau, Missouri

Horwich, Mitchell Alan, B.A. (Northwestern University), Coral Gables, Florida

Horwitz, Richard Louis, B.A. (Amherst College), Bridgeton, New Jersey

Howard, Carole Lynne, B.A. (North Carolina State University), Greenville, South Carolina

Ingraham, Donald Steven, B.S. (United States Naval Academy), Chapel Hill, North Carolina

Irick, Larry Dean, B.S. (Emporia State University), Baldwin, Kansas

Jacob, Neil John, B.A. (Brown University), St. Louis, Missouri

Jacobs, Daniel S., A.B. (Middlebury College), Riverdale, New York

James, Forrest Hood, III, B.A. (University of Virginia), Montgomery, Alabama

Jensen, Mark, A.B. (Dartmouth College), Portland, Oregon

Johnson, Carol Lynne, A.B. (Bryn Mawr College), Bountiful, Utah

Johnson, Sandra Warner, B.A. (Wittenberg University), Strongsville, Ohio

Kennedy, Sean Patrick, B.B.A. (University of Notre Dame), Clark Lake, Michigan

Koczela, Emily O'Keefe, B.A. (Smith College), Chevy Chase, Maryland

Koenig, Karen Sue, B.A. (Mount Holyoke College), Poughkeepsie, New York

Krimminger, Michael Hugh, B.A. (University of North Carolina at Chapel Hill), Monroe, North Carolina

LaMontagne, Kevin Michael, B.A. (University of South Florida), Boca Raton, Florida

Lampe, Donald Craig, S.B. (Massachusetts Institute of Technology), St. Petersburg, Florida

Landau, Ronald Barry, B.A. (Rutgers University), Hazlet, New Jersey

Lester, James Lee, B.S. (Massachusetts Institute of Technology), Arlington, Virginia

Logue, Thomas William, B.A. (Dickinson College), Philadelphia, Pennsylvania

Lukianuk, Richard Allan, B.A. (Duke University), Trumbull, Connecticut

Majestic, Ann Little, A.B. (Duke University), Ed.M. (Harvard College), Aiken, South Carolina

Mann, Robert Walter, Jr., B.B.A. (University of Notre Dame), Charlotte, North Carolina

Marriott, Vincent John, III, A.B. (Dartmouth College), New Canaan, Connecticut

Maxwell, George Motier, Jr., B.A. (University of North Carolina at Chapel Hill), Savannah, Georgia

McCoy, Douglas L., B.S. (University of Tennessee), Allentown, Pennsylvania

McKenna, Susan Kathleen, B.A. (Indiana University), Dunwoody, Georgia

McLoughlin, James Patrick, B.A. (Holy Cross College), North Brunswick, New Jersey

McNulty, Lauren Kathleen, B.B.A. (University of Notre Dame), Downers Grove, Illinois

Meiss, Thomas Michael, A.B. (Princeton University), Columbia, South Carolina

Messer, William Zachary, B.A. (Swarthmore College), Severna Park, Maryland

Monahan, Sharon Lee, B.A. (Ohio University), East Amherst, New York

Moore, Alfred Dale, B.S. (University of Florida), Winter Garden, Florida

Nagy, Gretchen E., B.A. (Ohio Wesleyan University), Hannibal, Missouri

Nekvasil, Kalju, B.A. (Manhattanville College), Washington, D.C.

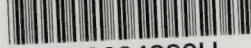
Noack, Jo Marie, B.B.A. (University of Notre Dame), Carrington, North Dakota

Notinger, Alan Scott, B.A. (State University of New York at Binghamton), Merrick, New York

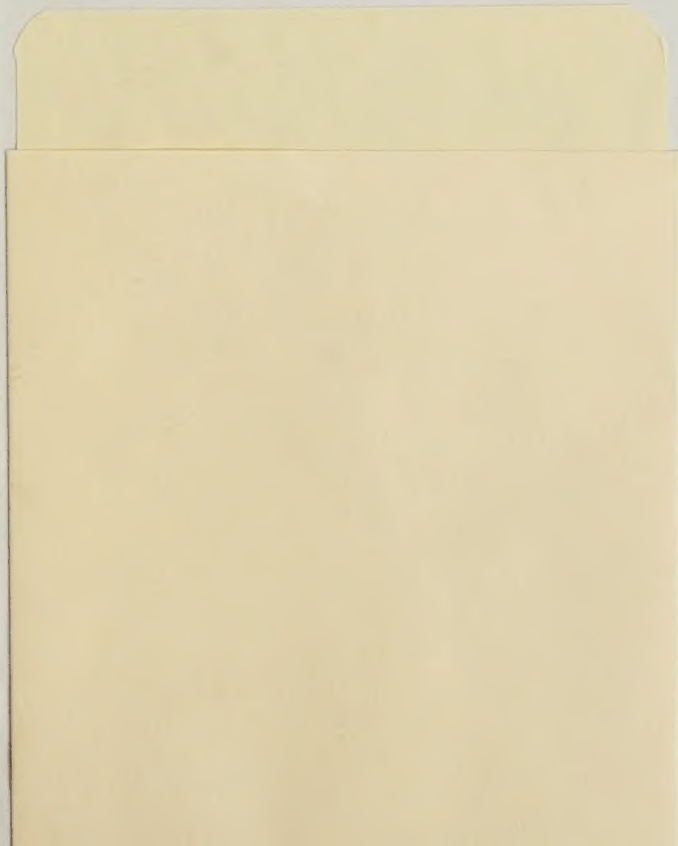
O'Donnell, Richard Kevin, B.A. (Columbia University), Salisbury, Connecticut
 Olick, Robert Scott, B.A. (Colgate University), Hartsdale, New York
 Osnos, Matthew DeWitt, B.A. (University of Pennsylvania), Washington, D.C.
 Padgett, Stanley Theodore, B.S. (Auburn University), Bowling Green, Kentucky
 Pakenham, Timothy Joseph, B.A. (University of Notre Dame), Louisville, Kentucky
 Pappas, Eva Marie, A.B. (University of North Carolina at Chapel Hill), Nashville, Tennessee
 Peacock, James Russell, III, B.A. (College of the Holy Cross), Georgetown, Maine
 Pickrell, Thomas Wilson, B.A. (University of Arizona), Scottsdale, Arizona
 Piemont, Jeffrey Lloyd, B.S. (University of North Carolina at Charlotte), Charlotte, North Carolina
 Platt, Susan Jean, B.A. (Pomona College), Baltimore, Maryland
 Powers, Sharon Lynne, B.A. (Boston College), Potomac, Maryland
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 Roth, Elizabeth, A.B. (Cornell University), M.A., Ph.D. (University of Washington), Chapel Hill, North Carolina
 Rozek, Christopher Edward, B.A. (University of Colorado), B.A. (Oxford University), Boulder, Colorado
 Sachs, Peter Alan, B.A. (Emory University), Rochester, New York
 Samul, Sally, B.S. (University of Maryland), Adelphi, Maryland
 Schaffer, Stuart Frederick, B.S.B.A. (University of Florida), Miami, Florida
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 Shepard, Mark Donald, B.A. (University of Notre Dame), Pittsburgh, Pennsylvania
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 Shook, Lorraine Susan, B.A. (Brandeis University), Easton, Connecticut
 Sistrunk, Hezekiah, B.A. (North Carolina State University), Orangeburg, South Carolina
 Sokol, Ivan Scott, B.A. (Duke University), Birmingham, Alabama
 Solomon, Robert H., B.S. (Wharton School/University of Pennsylvania), Brooklyn, New York
 Spencer, Brad Warren, B.S. (Cornell University), Jericho, New York
 Spinar, Thomas Lee, B.S. (Nebraska Wesleyan University), Crete, Nebraska
 Squillante, David George, B.A. (University of Cincinnati), Cincinnati, Ohio
 Stebbins, Ellen Renee, B.A. (Davidson College), Marietta, Georgia
 Swofford, Linda Jean, B.S. (University of North Carolina at Chapel Hill), Charlotte, North Carolina
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 Thornton, Michael Bert, B.S., M.S. (University of Southern Mississippi), M.A. (University of Tennessee), Hattiesburg, Mississippi
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 Underhill, David Michael, B.S. (Carnegie-Mellon University), Cincinnati, Ohio
 Wade, Peter A., B.S. (Miami University), Tiffin, Ohio
 Wallis, Diane Winton Alexander, (North Carolina State University), Raleigh, North Carolina
 Whitehurst, Julian Edward, B.A. (Ohio University), South Charleston, West Virginia
 Whitt, Dwight Reginald, B.A. (Loyola College), S.T.B. (Dominican House of Studies), Baltimore, Maryland
 Wilkinson, Michelle Campo, A.B. (Mount Holyoke College), Waterford, Connecticut
 Wright, Martha Jayne, A.B. (Goucher College), Aberdeen, Maryland
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 Young, Joseph Richard, B.A. (Northwestern University), Philadelphia, Pennsylvania
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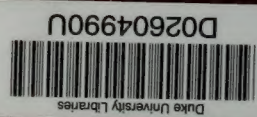


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